



Laramie Energy, LLC

Mesa County, CO

Laramie 0993-29-01

Laramie 29-01 0993-20-16E

OH

Design #1

KLX Anticollision Report

23 August, 2023





Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.0 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	8/23/2023		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	9,127.4	Design #1 (OH)	OWSG (REV5) MWD HD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Laramie 0993-29-01						
Laramie 29-01 0993-20-11E - OH - Design #1	200.0	200.0	80.2	77.7	32.448	CC, ES
Laramie 29-01 0993-20-11E - OH - Design #1	700.0	679.0	121.5	111.9	12.661	SF
Laramie 29-01 0993-20-12E - OH - Design #1	205.6	205.6	64.0	61.5	25.407	CC
Laramie 29-01 0993-20-12E - OH - Design #1	300.0	299.4	64.1	60.9	19.524	ES
Laramie 29-01 0993-20-12E - OH - Design #1	800.0	781.2	104.3	94.3	10.370	SF
Laramie 29-01 0993-20-13E - OH - Design #1	213.0	213.0	48.0	45.4	18.501	CC
Laramie 29-01 0993-20-13E - OH - Design #1	300.0	299.8	48.0	44.6	14.196	ES
Laramie 29-01 0993-20-13E - OH - Design #1	800.0	785.7	84.5	74.3	8.337	SF
Laramie 29-01 0993-20-14E - OH - Design #1	303.6	303.6	31.9	28.4	9.136	CC
Laramie 29-01 0993-20-14E - OH - Design #1	400.0	399.5	32.3	28.3	7.960	ES
Laramie 29-01 0993-20-14E - OH - Design #1	800.0	792.4	53.6	43.9	5.498	SF
Laramie 29-01 0993-20-15E - OH - Design #1	400.0	400.0	15.9	11.7	3.755	CC, ES
Laramie 29-01 0993-20-15E - OH - Design #1	800.0	797.2	24.0	14.7	2.589	SF
Laramie 29-01 0993-20-17E - OH - Design #1	547.4	547.8	11.9	6.9	2.388	Level 1, CC, ES
Laramie 29-01 0993-20-17E - OH - Design #1	800.0	799.5	20.3	10.5	2.072	Level 1, SF
Laramie 29-01 0993-20-18E - OH - Design #1	534.1	534.9	26.3	21.4	5.355	CC, ES
Laramie 29-01 0993-20-18E - OH - Design #1	900.0	899.2	41.0	30.1	3.764	SF
Laramie 29-01 Fed 0993-21-11W - OH - Design #1	200.0	200.0	72.1	69.6	29.179	CC
Laramie 29-01 Fed 0993-21-11W - OH - Design #1	300.0	299.4	72.4	69.1	22.171	ES
Laramie 29-01 Fed 0993-21-11W - OH - Design #1	700.0	688.9	93.6	85.3	11.384	SF
Laramie 29-01 Fed 0993-21-12W - OH - Design #1	200.0	200.0	56.0	53.5	22.668	CC
Laramie 29-01 Fed 0993-21-12W - OH - Design #1	300.0	299.6	56.4	52.9	16.077	ES
Laramie 29-01 Fed 0993-21-12W - OH - Design #1	700.0	689.2	82.6	73.9	9.438	SF
Laramie 29-01 Fed 0993-21-13W - OH - Design #1	291.0	291.0	39.9	36.5	11.797	CC
Laramie 29-01 Fed 0993-21-13W - OH - Design #1	400.0	399.7	40.5	36.2	9.369	ES
Laramie 29-01 Fed 0993-21-13W - OH - Design #1	600.0	596.0	51.5	44.3	7.144	SF
Laramie 29-01 Fed 0993-21-14W - OH - Design #1	345.0	345.1	23.8	20.2	6.516	CC
Laramie 29-01 Fed 0993-21-14W - OH - Design #1	400.0	399.9	24.1	20.0	5.890	ES
Laramie 29-01 Fed 0993-21-14W - OH - Design #1	600.0	596.9	36.7	29.3	4.970	SF
Laramie 29-01 Fed 0993-21-15W - OH - Design #1	326.6	326.6	7.7	4.2	2.221	Level 1, CC, ES
Laramie 29-01 Fed 0993-21-15W - OH - Design #1	400.0	399.9	8.6	4.3	2.012	Level 1, SF
Laramie 29-01 Fed 0993-21-16W - OH - Design #1	203.7	203.7	8.1	5.6	3.238	CC
Laramie 29-01 Fed 0993-21-16W - OH - Design #1	300.0	299.9	8.6	5.3	2.610	ES
Laramie 29-01 Fed 0993-21-16W - OH - Design #1	400.0	399.5	12.1	7.2	2.451	Level 1, SF
Laramie 29-01 Fed 0993-21-17W - OH - Design #1	200.0	200.0	24.0	21.6	9.723	CC
Laramie 29-01 Fed 0993-21-17W - OH - Design #1	300.0	299.6	24.6	21.3	7.484	ES
Laramie 29-01 Fed 0993-21-17W - OH - Design #1	500.0	497.4	34.7	28.4	5.522	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



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Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Laramie 0993-29-01						
Laramie 29-01 Fed 0993-21-18W - OH - Design #1	200.0	200.0	40.0	37.5	16.174	CC, ES
Laramie 29-01 Fed 0993-21-18W - OH - Design #1	500.0	495.4	53.3	46.7	8.111	SF

Offset Design											Offset Site Error:	0.0 usft
Laramie 0993-29-01 - Laramie 29-01 0993-20-11E - OH - Design #1											Offset Well Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-46.69	55.0	-58.3	80.2			
100.0	100.0	100.0	100.0	0.4	0.4	-46.69	55.0	-58.3	80.2	79.4	101.209	
200.0	200.0	200.0	200.0	1.2	1.2	-46.69	55.0	-58.3	80.2	77.7	32.448	CC, ES
300.0	300.0	297.4	297.4	1.7	2.4	-45.72	57.1	-58.5	81.8	77.9	21.261	
400.0	400.0	394.4	394.2	2.1	3.9	-43.05	63.2	-59.0	86.7	81.3	15.971	
500.0	500.0	490.2	489.4	2.5	4.9	-39.88	72.9	-60.9	95.6	88.8	14.132	
600.0	600.0	585.0	583.3	3.1	5.7	53.31	85.5	-65.2	107.5	99.4	13.238	
700.0	699.7	679.0	675.8	4.4	6.4	57.20	100.9	-71.9	121.5	111.9	12.661	SF
800.0	799.1	771.9	766.4	5.4	7.1	61.34	119.1	-80.9	137.9	127.1	12.777	
900.0	898.0	863.8	855.3	5.7	7.8	57.00	139.8	-92.2	156.3	144.7	13.483	
1,000.0	996.3	955.2	942.6	6.2	8.4	53.14	163.0	-105.6	175.3	162.5	13.779	
1,100.0	1,093.8	1,046.0	1,028.3	6.9	9.0	50.96	188.8	-121.1	194.6	180.8	14.074	
1,200.0	1,190.4	1,136.3	1,112.2	7.6	9.6	49.74	217.0	-138.7	214.1	199.3	14.448	
1,300.0	1,285.8	1,226.1	1,194.4	8.2	10.1	49.08	247.5	-158.3	233.8	218.0	14.824	
1,400.0	1,380.0	1,315.5	1,274.7	8.9	10.7	48.76	280.3	-179.9	253.5	236.8	15.157	
1,500.0	1,472.6	1,400.0	1,349.2	9.5	11.2	48.57	313.4	-202.2	273.3	255.7	15.531	
1,600.0	1,563.5	1,493.0	1,429.3	10.1	11.7	48.69	352.3	-228.7	292.9	274.2	15.655	
1,700.0	1,653.0	1,581.0	1,503.5	10.4	12.2	49.59	391.4	-255.8	313.1	293.6	16.027	
1,800.0	1,742.4	1,668.2	1,575.0	10.7	12.6	50.48	432.1	-284.5	336.3	315.9	16.433	
1,900.0	1,831.7	1,761.6	1,650.1	11.1	13.0	51.06	477.5	-316.6	361.9	340.3	16.819	
2,000.0	1,921.1	1,858.2	1,727.6	11.5	13.4	51.56	524.5	-349.9	387.6	364.9	17.107	
2,100.0	2,010.5	1,954.8	1,805.2	11.9	13.8	51.99	571.4	-383.2	413.3	389.4	17.322	
2,200.0	2,099.9	2,051.4	1,882.7	12.3	14.3	52.38	618.4	-416.5	439.0	413.9	17.488	
2,300.0	2,189.2	2,148.0	1,960.3	12.8	14.9	52.72	665.4	-449.9	464.8	438.4	17.606	
2,400.0	2,278.6	2,244.6	2,037.8	13.4	15.8	53.03	712.4	-483.2	490.5	462.8	17.691	
2,500.0	2,368.0	2,341.2	2,115.3	14.0	16.8	53.31	759.4	-516.5	516.3	487.2	17.749	
2,600.0	2,457.4	2,437.8	2,192.9	14.7	17.8	53.56	806.4	-549.8	542.1	511.6	17.787	
2,700.0	2,546.8	2,534.4	2,270.4	15.5	18.8	53.79	853.3	-583.1	567.9	536.0	17.808	
2,800.0	2,636.1	2,631.0	2,348.0	16.2	19.9	53.99	900.3	-616.4	593.7	560.4	17.817	
2,900.0	2,725.5	2,727.6	2,425.5	17.0	20.9	54.19	947.3	-649.7	619.5	584.7	17.816	
3,000.0	2,814.9	2,824.2	2,503.0	17.8	22.0	54.36	994.3	-683.1	645.3	609.1	17.807	
3,100.0	2,904.3	2,920.7	2,580.6	18.7	23.1	54.52	1,041.3	-716.4	671.1	633.4	17.793	
3,200.0	2,993.7	3,017.3	2,658.1	19.5	24.2	54.67	1,088.3	-749.7	697.0	657.8	17.774	
3,300.0	3,083.0	3,113.9	2,735.7	20.3	25.2	54.81	1,135.2	-783.0	722.8	682.1	17.751	
3,400.0	3,172.4	3,210.5	2,813.2	21.1	26.3	54.94	1,182.2	-816.3	748.6	706.4	17.726	
3,500.0	3,261.8	3,307.1	2,890.7	22.0	27.4	55.06	1,229.2	-849.6	774.5	730.7	17.699	
3,600.0	3,351.2	3,403.7	2,968.3	22.8	28.5	55.18	1,276.2	-882.9	800.3	755.0	17.671	
3,700.0	3,440.5	3,500.3	3,045.8	23.6	29.6	55.28	1,323.2	-916.3	826.2	779.3	17.642	
3,800.0	3,529.9	3,596.9	3,123.4	24.5	30.7	55.38	1,370.2	-949.6	852.0	803.6	17.612	
3,900.0	3,619.3	3,693.5	3,200.9	25.3	31.8	55.48	1,417.1	-982.9	877.9	827.9	17.582	
4,000.0	3,708.7	3,790.1	3,278.5	26.2	32.9	55.56	1,464.1	-1,016.2	903.7	852.2	17.552	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



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Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
4,100.0	3,798.1	3,886.7	3,356.0	27.0	34.0	55.65	1,511.1	-1,049.5	929.6	876.5	17.522			
4,200.0	3,887.4	3,983.3	3,433.5	27.9	35.0	55.73	1,558.1	-1,082.8	955.4	900.8	17.493			
4,300.0	3,976.8	4,079.8	3,511.1	28.7	36.1	55.80	1,605.1	-1,116.2	981.3	925.1	17.463			
4,400.0	4,066.2	4,176.4	3,588.6	29.5	37.2	55.87	1,652.1	-1,149.5	1,007.1	949.4	17.435			
4,500.0	4,155.6	4,273.0	3,666.2	30.4	38.3	55.94	1,699.0	-1,182.8	1,033.0	973.6	17.406			
4,600.0	4,244.9	4,369.6	3,743.7	31.2	39.4	56.00	1,746.0	-1,216.1	1,058.9	997.9	17.378			
4,700.0	4,334.3	4,466.2	3,821.2	32.1	40.5	56.07	1,793.0	-1,249.4	1,084.7	1,022.2	17.351			
4,800.0	4,423.7	4,562.8	3,898.8	32.9	41.6	56.12	1,840.0	-1,282.7	1,110.6	1,046.5	17.325			
4,900.0	4,513.1	4,659.4	3,976.3	33.8	42.7	56.18	1,887.0	-1,316.0	1,136.4	1,070.7	17.299			
5,000.0	4,602.5	4,756.0	4,053.9	34.6	43.8	56.23	1,934.0	-1,349.4	1,162.3	1,095.0	17.273			
5,100.0	4,691.8	4,852.6	4,131.4	35.5	44.9	56.28	1,981.0	-1,382.7	1,188.2	1,119.3	17.249			
5,200.0	4,781.2	4,949.2	4,208.9	36.3	46.0	56.33	2,027.9	-1,416.0	1,214.0	1,143.6	17.224			
5,300.0	4,870.6	5,045.8	4,286.5	37.2	47.1	56.38	2,074.9	-1,449.3	1,239.9	1,167.8	17.201			
5,400.0	4,960.0	5,142.4	4,364.0	38.1	48.2	56.42	2,121.9	-1,482.6	1,265.8	1,192.1	17.178			
5,500.0	5,049.4	5,238.9	4,441.5	38.9	49.3	56.43	2,168.9	-1,515.9	1,291.8	1,216.5	17.160			
5,600.0	5,140.3	5,335.0	4,518.7	39.7	50.4	57.14	2,215.6	-1,549.0	1,319.5	1,242.7	17.186			
5,700.0	5,233.0	5,430.2	4,595.1	40.4	51.5	57.56	2,261.9	-1,581.9	1,349.5	1,271.3	17.268			
5,800.0	5,327.1	5,524.4	4,670.7	41.0	52.6	57.88	2,307.7	-1,614.4	1,381.8	1,302.4	17.407			
5,900.0	5,422.7	5,617.7	4,753.5	41.5	54.0	57.94	2,369.0	-1,657.8	1,415.9	1,334.8	17.474			
6,000.0	5,519.4	5,710.0	4,833.2	42.0	55.9	57.66	2,451.9	-1,716.6	1,447.4	1,363.9	17.348			
6,100.0	5,617.2	5,808.5	4,918.0	42.3	57.6	57.40	2,526.7	-1,769.7	1,474.7	1,389.2	17.253			
6,200.0	5,715.8	5,907.0	5,007.2	42.6	59.0	57.17	2,591.1	-1,815.3	1,497.5	1,410.5	17.203			
6,300.0	5,815.0	6,006.0	5,098.9	42.8	60.1	56.96	2,642.8	-1,852.0	1,515.5	1,427.4	17.203			
6,400.0	5,914.7	6,107.0	5,190.9	43.0	60.8	56.79	2,679.8	-1,878.2	1,528.2	1,439.7	17.260			
6,500.0	6,014.6	6,208.5	5,292.8	43.1	61.3	56.65	2,700.5	-1,892.9	1,535.7	1,447.3	17.381			
6,600.0	6,114.6	6,309.0	5,394.7	43.1	61.4	-0.49	2,704.7	-1,895.9	1,537.4	1,449.7	17.523			
6,700.0	6,214.6	6,409.0	5,496.6	43.1	61.4	-0.49	2,704.7	-1,895.9	1,537.4	1,449.6	17.513			
6,800.0	6,314.6	6,509.0	5,598.5	43.1	61.4	-0.49	2,704.7	-1,895.9	1,537.4	1,449.6	17.502			
6,900.0	6,414.6	6,609.0	5,700.4	43.1	61.4	-0.49	2,704.7	-1,895.9	1,537.4	1,449.5	17.492			
7,000.0	6,514.6	6,709.0	5,802.3	43.2	61.4	-0.49	2,704.7	-1,895.9	1,537.4	1,449.5	17.481			
7,100.0	6,614.6	6,809.0	5,904.2	43.2	61.4	-0.49	2,704.7	-1,895.9	1,537.4	1,449.4	17.470			
7,200.0	6,714.6	6,909.0	6,006.1	43.2	61.5	-0.49	2,704.7	-1,895.9	1,537.4	1,449.4	17.459			
7,300.0	6,814.6	7,009.0	6,108.0	43.3	61.5	-0.49	2,704.7	-1,895.9	1,537.4	1,449.3	17.448			
7,400.0	6,914.6	7,109.0	6,209.9	43.3	61.5	-0.49	2,704.7	-1,895.9	1,537.4	1,449.3	17.437			
7,500.0	7,014.6	7,209.0	6,311.8	43.3	61.5	-0.49	2,704.7	-1,895.9	1,537.4	1,449.2	17.426			
7,600.0	7,114.6	7,309.0	6,413.7	43.3	61.5	-0.49	2,704.7	-1,895.9	1,537.4	1,449.1	17.415			
7,700.0	7,214.6	7,409.0	6,515.6	43.4	61.5	-0.49	2,704.7	-1,895.9	1,537.4	1,449.1	17.404			
7,800.0	7,314.6	7,509.0	6,617.5	43.4	61.6	-0.49	2,704.7	-1,895.9	1,537.4	1,449.0	17.393			
7,900.0	7,414.6	7,609.0	6,719.4	43.4	61.6	-0.49	2,704.7	-1,895.9	1,537.4	1,449.0	17.382			
8,000.0	7,514.6	7,709.0	6,821.3	43.4	61.6	-0.49	2,704.7	-1,895.9	1,537.4	1,448.9	17.371			
8,100.0	7,614.6	7,809.0	6,923.2	43.5	61.6	-0.49	2,704.7	-1,895.9	1,537.4	1,448.9	17.359			
8,200.0	7,714.6	7,909.0	7,025.1	43.5	61.6	-0.49	2,704.7	-1,895.9	1,537.4	1,448.8	17.348			
8,300.0	7,814.6	8,009.0	7,127.0	43.5	61.6	-0.49	2,704.7	-1,895.9	1,537.4	1,448.7	17.337			
8,305.0	7,819.5	8,013.9	7,131.9	43.5	61.6	-0.49	2,704.7	-1,895.9	1,537.4	1,448.7	17.336			
8,400.0	7,914.6	8,109.0	7,233.8	43.6	61.6	-0.49	2,704.7	-1,895.9	1,538.4	1,449.1	17.221			
8,500.0	8,014.6	8,209.0	7,335.7	43.6	61.6	-0.49	2,704.7	-1,895.9	1,545.3	1,455.0	17.125			
8,600.0	8,114.6	8,309.0	7,437.6	43.6	61.6	-0.49	2,704.7	-1,895.9	1,558.5	1,467.7	17.160			
8,700.0	8,214.6	8,409.0	7,539.5	43.6	61.6	-0.49	2,704.7	-1,895.9	1,578.0	1,486.9	17.319			
8,800.0	8,314.6	8,509.0	7,641.4	43.7	61.6	-0.49	2,704.7	-1,895.9	1,603.5	1,512.4	17.598			
8,900.0	8,414.6	8,609.0	7,743.3	43.7	61.6	-0.49	2,704.7	-1,895.9	1,634.7	1,543.8	17.989			
9,000.0	8,514.6	8,709.0	7,845.2	43.7	61.6	-0.49	2,704.7	-1,895.9	1,671.4	1,580.9	18.487			
9,100.0	8,614.6	8,809.0	7,947.1	43.8	61.6	-0.49	2,704.7	-1,895.9	1,713.1	1,623.3	19.085			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design	Laramie 0993-29-01 - Laramie 29-01 0993-20-11E - OH - Design #1										Offset Site Error:	0.0 usft
Survey Program:	0-OWSG (REV5) MWD HDGM Standard										Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
9,127.4	8,642.0	8,821.7	7,859.0	43.8	61.6	-0.49	2,704.7	-1,895.9	1,725.3	1,635.8	19.266	



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-46.50	44.1	-46.4	64.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.50	44.1	-46.4	64.0	63.2	80.818		
200.0	200.0	200.0	200.0	1.2	1.2	-46.50	44.1	-46.4	64.0	61.5	25.911		
205.6	205.6	205.6	205.6	1.3	1.3	-46.50	44.1	-46.4	64.0	61.5	25.407	CC	
300.0	300.0	299.4	299.4	1.7	1.6	-46.54	44.1	-46.6	64.1	60.9	19.524	ES	
400.0	400.0	396.8	396.7	2.1	2.6	-47.60	45.2	-49.5	67.1	62.4	14.490		
500.0	500.0	493.7	493.4	2.5	3.4	-49.69	47.7	-56.2	74.0	68.2	12.884		
600.0	600.0	590.1	589.2	3.1	4.0	39.66	52.9	-65.6	83.3	76.5	12.235		
700.0	699.7	686.0	684.0	4.4	4.9	41.51	61.5	-77.1	93.3	84.7	10.844		
800.0	799.1	781.2	777.5	5.4	5.7	45.05	73.3	-90.6	104.3	94.3	10.370	SF	
900.0	898.0	875.6	869.4	5.7	6.5	40.97	88.3	-106.0	116.5	105.6	10.727		
1,000.0	996.3	969.4	959.8	6.2	7.3	37.68	106.3	-123.3	129.1	117.1	10.775		
1,100.0	1,093.8	1,062.6	1,048.6	6.9	8.0	36.27	127.4	-142.4	142.0	128.9	10.817		
1,200.0	1,190.4	1,155.3	1,135.6	7.6	8.6	35.94	151.3	-163.3	155.2	141.1	10.939		
1,300.0	1,285.8	1,247.5	1,220.9	8.2	9.2	36.25	178.1	-185.9	168.8	153.6	11.110		
1,400.0	1,380.0	1,339.2	1,304.2	8.9	9.8	36.95	207.6	-210.1	182.8	166.6	11.302		
1,500.0	1,472.6	1,430.3	1,385.5	9.5	10.4	37.88	239.7	-235.9	197.0	179.9	11.503		
1,600.0	1,563.5	1,521.0	1,464.7	10.1	11.0	38.95	274.4	-263.2	211.5	193.4	11.698		
1,700.0	1,653.0	1,611.0	1,541.6	10.4	11.5	40.79	311.5	-291.9	227.2	208.4	12.096		
1,800.0	1,742.4	1,700.0	1,615.7	10.7	12.0	42.51	350.7	-321.8	246.6	227.0	12.578		
1,900.0	1,831.7	1,796.5	1,694.8	11.1	12.3	43.94	394.8	-355.1	268.3	247.8	13.085		
2,000.0	1,921.1	1,893.9	1,774.6	11.5	12.7	45.16	439.4	-388.8	290.2	268.7	13.469		
2,100.0	2,010.5	1,991.3	1,854.4	11.9	13.0	46.21	483.9	-422.5	312.2	289.6	13.772		
2,200.0	2,099.9	2,088.7	1,934.2	12.3	13.5	47.12	528.4	-456.1	334.4	310.5	14.009		
2,300.0	2,189.2	2,186.1	2,014.0	12.8	14.1	47.92	573.0	-489.8	356.5	331.4	14.193		
2,400.0	2,278.6	2,283.5	2,093.8	13.4	15.0	48.63	617.5	-523.5	378.8	352.3	14.336		
2,500.0	2,368.0	2,380.9	2,173.6	14.0	16.0	49.26	662.0	-557.1	401.1	373.3	14.446		
2,600.0	2,457.4	2,478.3	2,253.4	14.7	17.0	49.82	706.6	-590.8	423.4	394.2	14.529		
2,700.0	2,546.8	2,575.7	2,333.2	15.5	18.0	50.33	751.1	-624.5	445.7	415.2	14.592		
2,800.0	2,636.1	2,673.1	2,413.0	16.2	19.1	50.78	795.7	-658.2	468.1	436.1	14.639		
2,900.0	2,725.5	2,770.5	2,492.8	17.0	20.1	51.20	840.2	-691.8	490.5	457.1	14.673		
3,000.0	2,814.9	2,867.9	2,572.6	17.8	21.2	51.58	884.7	-725.5	513.0	478.1	14.697		
3,100.0	2,904.3	2,965.3	2,652.4	18.7	22.2	51.92	929.3	-759.2	535.4	499.0	14.712		
3,200.0	2,993.7	3,062.7	2,732.3	19.5	23.3	52.24	973.8	-792.8	557.9	520.0	14.721		
3,300.0	3,083.0	3,160.1	2,812.1	20.3	24.3	52.54	1,018.3	-826.5	580.4	541.0	14.725		
3,400.0	3,172.4	3,257.5	2,891.9	21.1	25.4	52.81	1,062.9	-860.2	602.9	562.0	14.725		
3,500.0	3,261.8	3,354.9	2,971.7	22.0	26.4	53.07	1,107.4	-893.8	625.4	582.9	14.722		
3,600.0	3,351.2	3,452.3	3,051.5	22.8	27.5	53.30	1,151.9	-927.5	647.9	603.9	14.716		
3,700.0	3,440.5	3,549.7	3,131.3	23.6	28.5	53.52	1,196.5	-961.2	670.5	624.9	14.709		
3,800.0	3,529.9	3,647.1	3,211.1	24.5	29.6	53.73	1,241.0	-994.8	693.0	645.9	14.700		
3,900.0	3,619.3	3,744.5	3,290.9	25.3	30.6	53.92	1,285.5	-1,028.5	715.6	666.9	14.689		
4,000.0	3,708.7	3,841.9	3,370.7	26.2	31.7	54.10	1,330.1	-1,062.2	738.1	687.9	14.678		
4,100.0	3,798.1	3,939.3	3,450.5	27.0	32.8	54.27	1,374.6	-1,095.9	760.7	708.8	14.666		
4,200.0	3,887.4	4,036.7	3,530.3	27.9	33.8	54.43	1,419.2	-1,129.5	783.3	729.8	14.654		
4,300.0	3,976.8	4,134.1	3,610.1	28.7	34.9	54.58	1,463.7	-1,163.2	805.9	750.8	14.641		
4,400.0	4,066.2	4,231.5	3,689.9	29.5	35.9	54.72	1,508.2	-1,196.9	828.4	771.8	14.629		
4,500.0	4,155.6	4,328.9	3,769.7	30.4	37.0	54.86	1,552.8	-1,230.5	851.0	792.8	14.616		
4,600.0	4,244.9	4,426.2	3,849.5	31.2	38.1	54.99	1,597.3	-1,264.2	873.6	813.8	14.603		
4,700.0	4,334.3	4,523.6	3,929.3	32.1	39.1	55.11	1,641.8	-1,297.9	896.2	834.8	14.590		
4,800.0	4,423.7	4,621.0	4,009.1	32.9	40.2	55.23	1,686.4	-1,331.5	918.8	855.8	14.577		
4,900.0	4,513.1	4,718.4	4,088.9	33.8	41.3	55.34	1,730.9	-1,365.2	941.4	876.8	14.564		
5,000.0	4,602.5	4,815.8	4,168.8	34.6	42.3	55.44	1,775.4	-1,398.9	964.0	897.8	14.551		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,691.8	4,913.2	4,248.6	35.5	43.4	55.54	1,820.0	-1,432.6	986.6	918.8	14.539		
5,200.0	4,781.2	5,010.6	4,328.4	36.3	44.4	55.64	1,864.5	-1,466.2	1,009.2	939.8	14.526		
5,300.0	4,870.6	5,108.0	4,408.2	37.2	45.5	55.73	1,909.1	-1,499.9	1,031.9	960.8	14.514		
5,400.0	4,960.0	5,205.4	4,488.0	38.1	46.6	55.82	1,953.6	-1,533.6	1,054.5	981.8	14.503		
5,500.0	5,049.4	5,302.8	4,567.8	38.9	47.6	56.04	1,998.1	-1,567.2	1,077.2	1,002.9	14.495		
5,600.0	5,140.3	5,399.7	4,647.2	39.7	48.7	56.49	2,042.4	-1,600.7	1,101.7	1,025.9	14.530		
5,700.0	5,233.0	5,495.9	4,726.0	40.4	49.8	56.81	2,086.4	-1,634.0	1,128.6	1,051.4	14.619		
5,800.0	5,327.1	5,622.5	4,830.5	41.0	51.1	56.89	2,143.4	-1,677.1	1,157.1	1,078.2	14.655		
5,900.0	5,422.7	5,783.7	4,968.7	41.5	52.7	56.81	2,209.6	-1,727.1	1,183.5	1,102.4	14.595		
6,000.0	5,519.4	5,949.3	5,116.2	42.0	54.0	56.73	2,269.4	-1,772.3	1,206.7	1,123.7	14.551		
6,100.0	5,617.2	6,118.8	5,272.6	42.3	55.2	56.65	2,321.6	-1,811.8	1,226.6	1,142.2	14.528		
6,200.0	5,715.8	6,291.9	5,436.8	42.6	56.2	56.57	2,365.3	-1,844.8	1,243.0	1,157.5	14.530		
6,300.0	5,815.0	6,468.0	5,607.5	42.8	56.9	56.49	2,399.4	-1,870.6	1,255.8	1,169.6	14.559		
6,400.0	5,914.7	6,646.4	5,783.4	43.0	57.4	56.41	2,423.2	-1,888.6	1,264.9	1,178.3	14.615		
6,500.0	6,014.6	6,826.4	5,962.6	43.1	57.7	56.33	2,436.1	-1,898.4	1,270.1	1,183.7	14.703		
6,600.0	6,114.6	6,978.4	6,114.6	43.1	57.7	-0.79	2,438.5	-1,900.2	1,271.2	1,185.3	14.789		
6,700.0	6,214.6	7,078.4	6,214.6	43.1	57.7	-0.79	2,438.5	-1,900.2	1,271.2	1,185.2	14.780		
6,800.0	6,314.6	7,178.4	6,314.6	43.1	57.8	-0.79	2,438.5	-1,900.2	1,271.2	1,185.2	14.771		
6,900.0	6,414.6	7,278.4	6,414.6	43.1	57.8	-0.79	2,438.5	-1,900.2	1,271.2	1,185.1	14.761		
7,000.0	6,514.6	7,378.4	6,514.6	43.2	57.8	-0.79	2,438.5	-1,900.2	1,271.2	1,185.1	14.752		
7,100.0	6,614.6	7,478.4	6,614.6	43.2	57.8	-0.79	2,438.5	-1,900.2	1,271.2	1,185.0	14.742		
7,200.0	6,714.6	7,578.4	6,714.6	43.2	57.8	-0.79	2,438.5	-1,900.2	1,271.2	1,185.0	14.733		
7,300.0	6,814.6	7,678.4	6,814.6	43.3	57.8	-0.79	2,438.5	-1,900.2	1,271.2	1,184.9	14.723		
7,400.0	6,914.6	7,778.4	6,914.6	43.3	57.9	-0.79	2,438.5	-1,900.2	1,271.2	1,184.8	14.714		
7,500.0	7,014.6	7,878.4	7,014.6	43.3	57.9	-0.79	2,438.5	-1,900.2	1,271.2	1,184.8	14.704		
7,600.0	7,114.6	7,978.4	7,114.6	43.3	57.9	-0.79	2,438.5	-1,900.2	1,271.2	1,184.7	14.694		
7,700.0	7,214.6	8,078.4	7,214.6	43.4	57.9	-0.79	2,438.5	-1,900.2	1,271.2	1,184.7	14.685		
7,800.0	7,314.6	8,178.4	7,314.6	43.4	57.9	-0.79	2,438.5	-1,900.2	1,271.2	1,184.6	14.675		
7,900.0	7,414.6	8,278.4	7,414.6	43.4	57.9	-0.79	2,438.5	-1,900.2	1,271.2	1,184.6	14.665		
8,000.0	7,514.6	8,378.4	7,514.6	43.4	58.0	-0.79	2,438.5	-1,900.2	1,271.2	1,184.5	14.655		
8,100.0	7,614.6	8,478.4	7,614.6	43.5	58.0	-0.79	2,438.5	-1,900.2	1,271.2	1,184.4	14.646		
8,200.0	7,714.6	8,578.4	7,714.6	43.5	58.0	-0.79	2,438.5	-1,900.2	1,271.2	1,184.4	14.636		
8,300.0	7,814.6	8,678.4	7,814.6	43.5	58.0	-0.79	2,438.5	-1,900.2	1,271.2	1,184.3	14.626		
8,400.0	7,914.6	8,778.4	7,914.6	43.6	58.0	-0.79	2,438.5	-1,900.2	1,271.2	1,184.3	14.616		
8,500.0	8,014.6	8,878.4	8,014.6	43.6	58.1	-0.79	2,438.5	-1,900.2	1,271.2	1,184.2	14.606		
8,600.0	8,114.6	8,978.4	8,114.6	43.6	58.1	-0.79	2,438.5	-1,900.2	1,271.2	1,184.1	14.596		
8,700.0	8,214.6	9,078.4	8,214.6	43.6	58.1	-0.79	2,438.5	-1,900.2	1,271.2	1,184.1	14.586		
8,800.0	8,314.6	9,178.4	8,314.6	43.7	58.1	-0.79	2,438.5	-1,900.2	1,271.2	1,184.0	14.576		
8,900.0	8,414.6	9,278.4	8,414.6	43.7	58.1	-0.79	2,438.5	-1,900.2	1,271.2	1,184.0	14.566		
9,000.0	8,514.6	9,378.4	8,514.6	43.7	58.2	-0.79	2,438.5	-1,900.2	1,271.2	1,183.9	14.556		
9,100.0	8,614.6	9,478.4	8,614.6	43.8	58.2	-0.79	2,438.5	-1,900.2	1,271.2	1,183.8	14.546		
9,127.4	8,642.0	9,505.8	8,642.0	43.8	58.2	-0.79	2,438.5	-1,900.2	1,271.2	1,183.8	14.544		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard													Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-46.67	32.9	-34.9	48.0					
100.0	100.0	100.0	100.0	0.4	0.4	-46.67	32.9	-34.9	48.0	47.2	60.589			
200.0	200.0	200.0	200.0	1.2	1.2	-46.67	32.9	-34.9	48.0	45.5	19.425			
213.0	213.0	213.0	213.0	1.3	1.3	-46.67	32.9	-34.9	48.0	45.4	18.501 CC			
300.0	300.0	299.8	299.8	1.7	1.6	-46.68	32.9	-34.9	48.0	44.6	14.196 ES			
400.0	400.0	397.9	397.8	2.1	2.5	-47.91	33.7	-37.3	50.3	45.8	11.036			
500.0	500.0	495.5	495.3	2.5	4.0	-50.67	35.8	-43.7	56.7	50.4	9.060			
600.0	600.0	592.7	591.8	3.1	4.6	37.00	39.2	-53.8	65.3	58.0	8.872			
700.0	699.7	689.5	687.6	4.4	5.0	37.62	45.3	-66.7	74.6	65.8	8.526			
800.0	799.1	785.7	782.1	5.4	5.8	40.71	54.8	-81.6	84.5	74.3	8.337 SF			
900.0	898.0	881.3	875.3	5.7	6.5	36.56	67.5	-98.5	95.2	84.3	8.742			
1,000.0	996.3	976.3	967.0	6.2	7.2	33.23	83.4	-117.4	106.1	94.1	8.855			
1,100.0	1,093.8	1,070.8	1,057.3	6.9	7.9	31.83	102.5	-138.2	117.3	104.1	8.926			
1,200.0	1,190.4	1,164.8	1,145.8	7.6	8.5	31.55	124.5	-160.9	128.7	114.4	9.043			
1,300.0	1,285.8	1,258.4	1,232.6	8.2	9.2	31.94	149.5	-185.3	140.3	125.0	9.192			
1,400.0	1,380.0	1,351.5	1,317.5	8.9	9.8	32.75	177.3	-211.4	152.1	135.9	9.357			
1,500.0	1,472.6	1,444.1	1,400.3	9.5	10.3	33.81	207.9	-239.2	164.3	147.0	9.531			
1,600.0	1,563.5	1,536.2	1,481.1	10.1	10.9	35.04	241.2	-268.5	176.7	158.5	9.705			
1,700.0	1,653.0	1,627.8	1,559.6	10.4	11.4	37.01	277.0	-299.3	190.2	171.4	10.108			
1,800.0	1,742.4	1,724.8	1,641.3	10.7	11.7	39.05	316.8	-333.0	206.3	186.8	10.560			
1,900.0	1,831.7	1,823.2	1,724.1	11.1	12.0	40.81	357.3	-367.3	222.8	202.4	10.899			
2,000.0	1,921.1	1,921.6	1,807.0	11.5	12.4	42.33	397.9	-401.6	239.5	218.0	11.160			
2,100.0	2,010.5	2,020.0	1,889.9	11.9	12.9	43.65	438.4	-435.9	256.3	233.7	11.359			
2,200.0	2,099.9	2,118.4	1,972.8	12.3	13.4	44.81	478.9	-470.2	273.2	249.4	11.510			
2,300.0	2,189.2	2,216.8	2,055.7	12.8	14.1	45.83	519.4	-504.5	290.2	265.2	11.615			
2,400.0	2,278.6	2,315.3	2,138.6	13.4	14.9	46.74	559.9	-538.7	307.3	281.0	11.694			
2,500.0	2,368.0	2,413.7	2,221.4	14.0	15.9	47.56	600.4	-573.0	324.4	296.8	11.749			
2,600.0	2,457.4	2,512.1	2,304.3	14.7	16.8	48.29	640.9	-607.3	341.6	312.6	11.785			
2,700.0	2,546.8	2,610.5	2,387.2	15.5	17.8	48.95	681.4	-641.6	358.9	328.5	11.807			
2,800.0	2,636.1	2,708.9	2,470.1	16.2	18.7	49.55	721.9	-675.9	376.2	344.4	11.818			
2,900.0	2,725.5	2,807.4	2,553.0	17.0	19.7	50.10	762.5	-710.2	393.5	360.2	11.821			
3,000.0	2,814.9	2,905.8	2,635.9	17.8	20.7	50.60	803.0	-744.4	410.9	376.1	11.817			
3,100.0	2,904.3	3,004.2	2,718.7	18.7	21.7	51.07	843.5	-778.7	428.3	392.0	11.809			
3,200.0	2,993.7	3,102.6	2,801.6	19.5	22.7	51.49	884.0	-813.0	445.7	407.9	11.797			
3,300.0	3,083.0	3,201.0	2,884.5	20.3	23.7	51.89	924.5	-847.3	463.2	423.9	11.783			
3,400.0	3,172.4	3,299.4	2,967.4	21.1	24.7	52.25	965.0	-881.6	480.6	439.8	11.767			
3,500.0	3,261.8	3,397.9	3,050.3	22.0	25.7	52.59	1,005.5	-915.9	498.1	455.7	11.750			
3,600.0	3,351.2	3,496.3	3,133.2	22.8	26.7	52.91	1,046.0	-950.2	515.6	471.7	11.731			
3,700.0	3,440.5	3,594.7	3,216.0	23.6	27.6	53.20	1,086.5	-984.4	533.1	487.6	11.712			
3,800.0	3,529.9	3,693.1	3,298.9	24.5	28.6	53.48	1,127.0	-1,018.7	550.7	503.6	11.693			
3,900.0	3,619.3	3,791.5	3,381.8	25.3	29.7	53.74	1,167.6	-1,053.0	568.2	519.5	11.674			
4,000.0	3,708.7	3,890.0	3,464.7	26.2	30.7	53.98	1,208.1	-1,087.3	585.8	535.5	11.655			
4,100.0	3,798.1	3,988.4	3,547.6	27.0	31.7	54.21	1,248.6	-1,121.6	603.3	551.5	11.636			
4,200.0	3,887.4	4,086.8	3,630.5	27.9	32.7	54.43	1,289.1	-1,155.9	620.9	567.4	11.617			
4,300.0	3,976.8	4,185.2	3,713.3	28.7	33.7	54.64	1,329.6	-1,190.2	638.5	583.4	11.598			
4,400.0	4,066.2	4,283.6	3,796.2	29.5	34.7	54.83	1,370.1	-1,224.4	656.0	599.4	11.580			
4,500.0	4,155.6	4,382.0	3,879.1	30.4	35.7	55.01	1,410.6	-1,258.7	673.6	615.4	11.563			
4,600.0	4,244.9	4,480.5	3,962.0	31.2	36.7	55.19	1,451.1	-1,293.0	691.2	631.4	11.545			
4,700.0	4,334.3	4,578.9	4,044.9	32.1	37.7	55.35	1,491.6	-1,327.3	708.8	647.3	11.528			
4,800.0	4,423.7	4,677.3	4,127.8	32.9	38.7	55.51	1,532.1	-1,361.6	726.4	663.3	11.512			
4,900.0	4,513.1	4,775.7	4,210.6	33.8	39.7	55.66	1,572.7	-1,395.9	744.1	679.3	11.496			
5,000.0	4,602.5	4,874.1	4,293.5	34.6	40.7	55.81	1,613.2	-1,430.1	761.7	695.3	11.480			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
5,100.0	4,691.8	4,972.6	4,376.4	35.5	41.7	55.94	1,653.7	-1,464.4	779.3	711.3	11.465			
5,200.0	4,781.2	5,071.0	4,459.3	36.3	42.7	56.07	1,694.2	-1,498.7	796.9	727.3	11.451			
5,300.0	4,870.6	5,169.4	4,542.2	37.2	43.7	56.20	1,734.7	-1,533.0	814.6	743.3	11.436			
5,400.0	4,960.0	5,267.8	4,625.1	38.1	44.7	56.32	1,775.2	-1,567.3	832.2	759.3	11.422			
5,500.0	5,049.4	5,366.2	4,707.9	38.9	45.8	56.54	1,815.7	-1,601.6	849.9	775.5	11.413			
5,600.0	5,140.3	5,464.3	4,790.5	39.7	46.8	56.87	1,856.1	-1,635.7	869.5	793.5	11.443			
5,700.0	5,233.0	5,578.5	4,887.1	40.4	47.9	56.97	1,902.6	-1,675.1	891.0	813.3	11.476			
5,800.0	5,327.1	5,717.4	5,008.0	41.0	49.2	56.97	1,954.7	-1,719.2	911.2	831.6	11.455			
5,900.0	5,422.7	5,858.4	5,134.7	41.5	50.3	56.95	2,001.8	-1,759.1	929.2	848.0	11.440			
6,000.0	5,519.4	6,001.3	5,266.9	42.0	51.3	56.94	2,043.4	-1,794.3	945.0	862.3	11.435			
6,100.0	5,617.2	6,146.0	5,403.8	42.3	52.1	56.91	2,079.0	-1,824.4	958.4	874.7	11.442			
6,200.0	5,715.8	6,292.3	5,545.0	42.6	52.8	56.88	2,108.3	-1,849.1	969.4	884.8	11.458			
6,300.0	5,815.0	6,439.8	5,689.5	42.8	53.3	56.84	2,130.7	-1,868.1	978.0	892.8	11.487			
6,400.0	5,914.7	6,588.2	5,836.5	43.0	53.6	56.79	2,146.1	-1,881.2	984.0	898.6	11.526			
6,500.0	6,014.6	6,737.3	5,985.2	43.1	53.8	56.74	2,154.2	-1,888.0	987.4	902.1	11.581			
6,600.0	6,114.6	6,866.7	6,114.6	43.1	53.9	-0.37	2,155.5	-1,889.1	988.1	903.1	11.625			
6,700.0	6,214.6	6,966.7	6,214.6	43.1	53.9	-0.37	2,155.5	-1,889.1	988.1	903.1	11.618			
6,800.0	6,314.6	7,066.7	6,314.6	43.1	53.9	-0.37	2,155.5	-1,889.1	988.1	903.0	11.610			
6,900.0	6,414.6	7,166.7	6,414.6	43.1	53.9	-0.37	2,155.5	-1,889.1	988.1	903.0	11.603			
7,000.0	6,514.6	7,266.7	6,514.6	43.2	53.9	-0.37	2,155.5	-1,889.1	988.1	902.9	11.595			
7,100.0	6,614.6	7,366.7	6,614.6	43.2	53.9	-0.37	2,155.5	-1,889.1	988.1	902.9	11.588			
7,200.0	6,714.6	7,466.7	6,714.6	43.2	54.0	-0.37	2,155.5	-1,889.1	988.1	902.8	11.580			
7,300.0	6,814.6	7,566.7	6,814.6	43.3	54.0	-0.37	2,155.5	-1,889.1	988.1	902.8	11.572			
7,400.0	6,914.6	7,666.7	6,914.6	43.3	54.0	-0.37	2,155.5	-1,889.1	988.1	902.7	11.565			
7,500.0	7,014.6	7,766.7	7,014.6	43.3	54.0	-0.37	2,155.5	-1,889.1	988.1	902.6	11.557			
7,600.0	7,114.6	7,866.7	7,114.6	43.3	54.0	-0.37	2,155.5	-1,889.1	988.1	902.6	11.549			
7,700.0	7,214.6	7,966.7	7,214.6	43.4	54.1	-0.37	2,155.5	-1,889.1	988.1	902.5	11.541			
7,800.0	7,314.6	8,066.7	7,314.6	43.4	54.1	-0.37	2,155.5	-1,889.1	988.1	902.5	11.534			
7,900.0	7,414.6	8,166.7	7,414.6	43.4	54.1	-0.37	2,155.5	-1,889.1	988.1	902.4	11.526			
8,000.0	7,514.6	8,266.7	7,514.6	43.4	54.1	-0.37	2,155.5	-1,889.1	988.1	902.4	11.518			
8,100.0	7,614.6	8,366.7	7,614.6	43.5	54.1	-0.37	2,155.5	-1,889.1	988.1	902.3	11.510			
8,200.0	7,714.6	8,466.7	7,714.6	43.5	54.2	-0.37	2,155.5	-1,889.1	988.1	902.2	11.502			
8,300.0	7,814.6	8,566.7	7,814.6	43.5	54.2	-0.37	2,155.5	-1,889.1	988.1	902.2	11.494			
8,303.1	7,817.7	8,569.8	7,817.7	43.5	54.2	-0.37	2,155.5	-1,889.1	988.1	902.2	11.494			
8,400.0	7,914.6	8,601.1	7,849.0	43.6	54.2	-0.37	2,155.5	-1,889.1	990.3	903.4	11.400			
8,500.0	8,014.6	8,601.1	7,849.0	43.6	54.2	-0.37	2,155.5	-1,889.1	1,001.9	914.3	11.435			
8,600.0	8,114.6	8,601.1	7,849.0	43.6	54.2	-0.37	2,155.5	-1,889.1	1,023.2	935.5	11.670			
8,700.0	8,214.6	8,601.1	7,849.0	43.6	54.2	-0.37	2,155.5	-1,889.1	1,053.6	966.5	12.093			
8,800.0	8,314.6	8,601.1	7,849.0	43.7	54.2	-0.37	2,155.5	-1,889.1	1,092.3	1,006.2	12.690			
8,900.0	8,414.6	8,601.1	7,849.0	43.7	54.2	-0.37	2,155.5	-1,889.1	1,138.6	1,053.9	13.445			
9,000.0	8,514.6	8,601.1	7,849.0	43.7	54.2	-0.37	2,155.5	-1,889.1	1,191.4	1,108.3	14.346			
9,100.0	8,614.6	8,601.1	7,849.0	43.8	54.2	-0.37	2,155.5	-1,889.1	1,250.0	1,168.7	15.377			
9,127.4	8,642.0	8,601.1	7,849.0	43.8	54.2	-0.37	2,155.5	-1,889.1	1,267.0	1,186.2	15.682			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-46.73	21.9	-23.2	31.9				
100.0	100.0	100.0	100.0	0.4	0.4	-46.73	21.9	-23.2	31.9	31.1	40.253		
200.0	200.0	200.0	200.0	1.2	1.2	-46.73	21.9	-23.2	31.9	29.4	12.905		
300.0	300.0	300.0	300.0	1.7	1.7	-46.73	21.9	-23.2	31.9	28.4	9.191		
303.6	303.6	303.6	303.6	1.7	1.7	-46.73	21.9	-23.2	31.9	28.4	9.136	CC	
400.0	400.0	399.5	399.4	2.1	1.9	-47.32	21.9	-23.7	32.3	28.3	7.960	ES	
500.0	500.0	498.2	498.1	2.5	3.1	-51.49	22.3	-28.0	35.8	30.5	6.728		
600.0	600.0	596.5	596.1	3.1	4.4	33.80	23.0	-36.4	41.4	34.4	5.871		
700.0	699.7	694.6	693.4	4.4	4.7	31.58	24.8	-48.6	47.4	38.9	5.611		
800.0	799.1	792.4	789.9	5.4	5.3	33.75	29.7	-63.3	53.6	43.9	5.498	SF	
900.0	898.0	889.8	885.4	5.7	6.0	29.81	38.0	-80.2	60.2	49.8	5.747		
1,000.0	996.3	986.8	979.8	6.2	6.7	26.81	49.6	-99.4	67.0	55.4	5.779		
1,100.0	1,093.8	1,083.5	1,073.0	6.9	7.3	25.82	64.4	-120.9	73.8	61.1	5.777		
1,200.0	1,190.4	1,179.9	1,164.7	7.6	8.0	26.01	82.4	-144.4	80.9	66.9	5.810		
1,300.0	1,285.8	1,276.0	1,254.8	8.2	8.6	26.92	103.5	-170.0	88.1	73.1	5.875		
1,400.0	1,380.0	1,371.7	1,343.2	8.9	9.3	28.28	127.6	-197.7	95.5	79.5	5.962		
1,500.0	1,472.6	1,467.1	1,429.8	9.5	9.9	29.91	154.7	-227.2	103.2	86.2	6.067		
1,600.0	1,563.5	1,562.2	1,514.4	10.1	10.4	31.72	184.6	-258.7	111.1	93.1	6.182		
1,700.0	1,653.0	1,657.0	1,596.9	10.4	10.9	34.18	217.4	-291.9	120.2	101.7	6.495		
1,800.0	1,742.4	1,756.3	1,682.3	10.7	11.2	36.58	253.2	-327.7	131.3	112.0	6.825		
1,900.0	1,831.7	1,855.5	1,767.7	11.1	11.6	38.60	289.0	-363.4	142.5	122.4	7.087		
2,000.0	1,921.1	1,954.8	1,853.1	11.5	12.0	40.33	324.8	-399.2	153.9	132.8	7.294		
2,100.0	2,010.5	2,054.0	1,938.5	11.9	12.5	41.82	360.5	-434.9	165.4	143.2	7.455		
2,200.0	2,099.9	2,153.3	2,023.9	12.3	13.0	43.12	396.3	-470.6	177.0	153.6	7.576		
2,300.0	2,189.2	2,252.5	2,109.3	12.8	13.7	44.25	432.1	-506.4	188.7	164.1	7.672		
2,400.0	2,278.6	2,351.8	2,194.7	13.4	14.5	45.25	467.9	-542.1	200.4	174.5	7.745		
2,500.0	2,368.0	2,451.0	2,280.1	14.0	15.3	46.15	503.6	-577.9	212.2	185.0	7.798		
2,600.0	2,457.4	2,550.3	2,365.5	14.7	16.2	46.94	539.4	-613.6	224.1	195.5	7.838		
2,700.0	2,546.8	2,649.5	2,450.9	15.5	17.1	47.66	575.2	-649.4	236.0	206.0	7.867		
2,800.0	2,636.1	2,748.8	2,536.3	16.2	18.0	48.31	611.0	-685.1	247.9	216.5	7.887		
2,900.0	2,725.5	2,848.0	2,621.7	17.0	18.9	48.90	646.7	-720.9	259.8	226.9	7.901		
3,000.0	2,814.9	2,947.3	2,707.1	17.8	19.9	49.44	682.5	-756.6	271.8	237.4	7.909		
3,100.0	2,904.3	3,046.5	2,792.5	18.7	20.8	49.93	718.3	-792.3	283.8	247.9	7.914		
3,200.0	2,993.7	3,145.8	2,877.9	19.5	21.7	50.38	754.1	-828.1	295.8	258.4	7.915		
3,300.0	3,083.0	3,245.0	2,963.3	20.3	22.7	50.80	789.8	-863.8	307.8	268.9	7.914		
3,400.0	3,172.4	3,344.3	3,048.7	21.1	23.6	51.18	825.6	-899.6	319.9	279.4	7.911		
3,500.0	3,261.8	3,443.5	3,134.1	22.0	24.6	51.54	861.4	-935.3	331.9	290.0	7.907		
3,600.0	3,351.2	3,542.8	3,219.5	22.8	25.5	51.87	897.2	-971.1	344.0	300.5	7.902		
3,700.0	3,440.5	3,642.0	3,304.9	23.6	26.5	52.18	932.9	-1,006.8	356.1	311.0	7.896		
3,800.0	3,529.9	3,741.3	3,390.3	24.5	27.4	52.47	968.7	-1,042.6	368.2	321.5	7.889		
3,900.0	3,619.3	3,840.5	3,475.7	25.3	28.4	52.74	1,004.5	-1,078.3	380.3	332.0	7.882		
4,000.0	3,708.7	3,939.8	3,561.1	26.2	29.3	53.00	1,040.3	-1,114.0	392.4	342.5	7.875		
4,100.0	3,798.1	4,039.0	3,646.5	27.0	30.3	53.24	1,076.0	-1,149.8	404.5	353.1	7.868		
4,200.0	3,887.4	4,138.3	3,731.9	27.9	31.2	53.46	1,111.8	-1,185.5	416.6	363.6	7.860		
4,300.0	3,976.8	4,237.5	3,817.3	28.7	32.2	53.67	1,147.6	-1,221.3	428.7	374.1	7.852		
4,400.0	4,066.2	4,336.8	3,902.7	29.5	33.1	53.87	1,183.4	-1,257.0	440.9	384.7	7.845		
4,500.0	4,155.6	4,436.0	3,988.1	30.4	34.1	54.06	1,219.1	-1,292.8	453.0	395.2	7.837		
4,600.0	4,244.9	4,535.3	4,073.5	31.2	35.0	54.24	1,254.9	-1,328.5	465.1	405.7	7.829		
4,700.0	4,334.3	4,634.5	4,158.9	32.1	36.0	54.42	1,290.7	-1,364.3	477.3	416.3	7.822		
4,800.0	4,423.7	4,733.8	4,244.3	32.9	37.0	54.58	1,326.5	-1,400.0	489.4	426.8	7.815		
4,900.0	4,513.1	4,833.0	4,329.7	33.8	37.9	54.73	1,362.2	-1,435.7	501.6	437.3	7.807		
5,000.0	4,602.5	4,932.3	4,415.1	34.6	38.9	54.88	1,398.0	-1,471.5	513.7	447.9	7.800		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,691.8	5,031.5	4,500.5	35.5	39.8	55.02	1,433.8	-1,507.2	525.9	458.4	7.794		
5,200.0	4,781.2	5,130.8	4,585.9	36.3	40.8	55.15	1,469.6	-1,543.0	538.0	468.9	7.787		
5,300.0	4,870.6	5,230.0	4,671.3	37.2	41.8	55.28	1,505.3	-1,578.7	550.2	479.5	7.780		
5,400.0	4,960.0	5,329.3	4,756.7	38.1	42.7	55.41	1,541.1	-1,614.5	562.4	490.0	7.774		
5,500.0	5,049.4	5,428.5	4,842.1	38.9	43.7	55.59	1,576.9	-1,650.2	574.7	500.7	7.771		
5,600.0	5,140.3	5,535.3	4,934.1	39.7	44.7	55.71	1,615.1	-1,688.4	588.6	513.0	7.788		
5,700.0	5,233.0	5,656.8	5,041.4	40.4	45.8	55.73	1,655.5	-1,728.8	602.0	524.6	7.785		
5,800.0	5,327.1	5,779.2	5,152.3	41.0	46.7	55.75	1,692.1	-1,765.4	614.1	535.2	7.783		
5,900.0	5,422.7	5,902.5	5,266.6	41.5	47.6	55.76	1,724.7	-1,797.9	624.8	544.5	7.785		
6,000.0	5,519.4	6,026.5	5,384.0	42.0	48.3	55.77	1,753.0	-1,826.2	634.1	552.8	7.793		
6,100.0	5,617.2	6,151.2	5,504.0	42.3	48.9	55.76	1,776.9	-1,850.1	642.0	559.8	7.804		
6,200.0	5,715.8	6,276.4	5,626.1	42.6	49.3	55.75	1,796.3	-1,869.4	648.5	565.5	7.818		
6,300.0	5,815.0	6,402.0	5,750.1	42.8	49.7	55.73	1,810.9	-1,884.0	653.4	570.0	7.836		
6,400.0	5,914.7	6,528.0	5,875.3	43.0	49.9	55.69	1,820.7	-1,893.8	656.8	573.2	7.859		
6,500.0	6,014.6	6,654.3	6,001.3	43.1	50.1	55.65	1,825.6	-1,898.7	658.7	575.2	7.887		
6,600.0	6,114.6	6,767.5	6,114.6	43.1	50.1	-1.45	1,826.3	-1,899.4	659.1	575.7	7.905		
6,700.0	6,214.6	6,867.5	6,214.6	43.1	50.1	-1.45	1,826.3	-1,899.4	659.1	575.7	7.900		
6,800.0	6,314.6	6,967.5	6,314.6	43.1	50.1	-1.45	1,826.3	-1,899.4	659.1	575.6	7.894		
6,900.0	6,414.6	7,067.5	6,414.6	43.1	50.2	-1.45	1,826.3	-1,899.4	659.1	575.5	7.889		
7,000.0	6,514.6	7,167.5	6,514.6	43.2	50.2	-1.45	1,826.3	-1,899.4	659.1	575.5	7.884		
7,100.0	6,614.6	7,267.5	6,614.6	43.2	50.2	-1.45	1,826.3	-1,899.4	659.1	575.4	7.878		
7,200.0	6,714.6	7,367.5	6,714.6	43.2	50.2	-1.45	1,826.3	-1,899.4	659.1	575.4	7.873		
7,300.0	6,814.6	7,467.5	6,814.6	43.3	50.2	-1.45	1,826.3	-1,899.4	659.1	575.3	7.868		
7,400.0	6,914.6	7,567.5	6,914.6	43.3	50.3	-1.45	1,826.3	-1,899.4	659.1	575.3	7.862		
7,500.0	7,014.6	7,667.5	7,014.6	43.3	50.3	-1.45	1,826.3	-1,899.4	659.1	575.2	7.857		
7,600.0	7,114.6	7,767.5	7,114.6	43.3	50.3	-1.45	1,826.3	-1,899.4	659.1	575.1	7.851		
7,700.0	7,214.6	7,867.5	7,214.6	43.4	50.3	-1.45	1,826.3	-1,899.4	659.1	575.1	7.846		
7,800.0	7,314.6	7,967.5	7,314.6	43.4	50.3	-1.45	1,826.3	-1,899.4	659.1	575.0	7.840		
7,900.0	7,414.6	8,067.5	7,414.6	43.4	50.4	-1.45	1,826.3	-1,899.4	659.1	575.0	7.835		
8,000.0	7,514.6	8,167.5	7,514.6	43.4	50.4	-1.45	1,826.3	-1,899.4	659.1	574.9	7.829		
8,100.0	7,614.6	8,267.5	7,614.6	43.5	50.4	-1.45	1,826.3	-1,899.4	659.1	574.8	7.824		
8,200.0	7,714.6	8,367.5	7,714.6	43.5	50.4	-1.45	1,826.3	-1,899.4	659.1	574.8	7.818		
8,300.0	7,814.6	8,467.5	7,814.6	43.5	50.5	-1.45	1,826.3	-1,899.4	659.1	574.7	7.813		
8,400.0	7,914.6	8,567.5	7,914.6	43.6	50.5	-1.45	1,826.3	-1,899.4	659.1	574.7	7.807		
8,500.0	8,014.6	8,667.5	8,014.6	43.6	50.5	-1.45	1,826.3	-1,899.4	659.1	574.6	7.801		
8,600.0	8,114.6	8,767.5	8,114.6	43.6	50.5	-1.45	1,826.3	-1,899.4	659.1	574.5	7.796		
8,700.0	8,214.6	8,867.5	8,214.6	43.6	50.6	-1.45	1,826.3	-1,899.4	659.1	574.5	7.790		
8,800.0	8,314.6	8,967.5	8,314.6	43.7	50.6	-1.45	1,826.3	-1,899.4	659.1	574.4	7.784		
8,900.0	8,414.6	9,067.5	8,414.6	43.7	50.6	-1.45	1,826.3	-1,899.4	659.1	574.4	7.779		
9,000.0	8,514.6	9,167.5	8,514.6	43.7	50.6	-1.45	1,826.3	-1,899.4	659.1	574.3	7.773		
9,100.0	8,614.6	9,267.5	8,614.6	43.8	50.6	-1.45	1,826.3	-1,899.4	659.1	574.2	7.767		
9,127.4	8,642.0	9,295.0	8,642.0	43.8	50.7	-1.45	1,826.3	-1,899.4	659.1	574.2	7.766		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-46.75	10.9	-11.6	15.9				
100.0	100.0	100.0	100.0	0.4	0.4	-46.75	10.9	-11.6	15.9	15.1	20.122		
200.0	200.0	200.0	200.0	1.2	1.2	-46.75	10.9	-11.6	15.9	13.5	6.451		
300.0	300.0	300.0	300.0	1.7	1.7	-46.75	10.9	-11.6	15.9	12.5	4.594		
400.0	400.0	400.0	400.0	2.1	2.1	-46.75	10.9	-11.6	15.9	11.7	3.755	CC, ES	
500.0	500.0	499.6	499.6	2.5	2.4	-49.84	10.8	-12.8	16.8	12.0	3.480		
600.0	600.0	599.0	598.8	3.1	3.7	32.83	10.3	-18.2	19.1	12.8	3.015		
700.0	699.7	698.2	697.6	4.4	4.2	26.90	9.7	-27.7	21.5	13.5	2.688		
800.0	799.1	797.2	795.8	5.4	4.6	28.61	11.5	-40.4	24.0	14.7	2.589	SF	
900.0	898.0	896.1	893.3	5.7	5.3	26.94	16.5	-55.8	26.8	16.9	2.694		
1,000.0	996.3	994.8	990.0	6.2	6.1	25.81	24.6	-74.0	29.9	18.9	2.714		
1,100.0	1,093.8	1,093.4	1,085.6	6.9	6.8	26.28	35.9	-94.8	33.2	21.0	2.726		
1,200.0	1,190.4	1,191.8	1,180.1	7.6	7.5	27.59	50.2	-118.2	36.7	23.4	2.767		
1,300.0	1,285.8	1,290.0	1,273.2	8.2	8.2	29.33	67.7	-144.2	40.4	26.1	2.827		
1,400.0	1,380.0	1,388.1	1,364.8	8.9	8.8	31.29	88.1	-172.7	44.3	29.0	2.900		
1,500.0	1,472.6	1,486.0	1,454.7	9.5	9.5	33.34	111.6	-203.7	48.3	32.1	2.979		
1,600.0	1,563.5	1,583.9	1,542.8	10.1	10.1	35.42	137.9	-237.0	52.6	35.4	3.058		
1,700.0	1,653.0	1,682.2	1,629.6	10.4	10.5	37.86	167.2	-272.8	57.6	39.9	3.248		
1,800.0	1,742.4	1,782.0	1,717.2	10.7	10.8	40.02	197.5	-309.7	63.5	45.0	3.425		
1,900.0	1,831.7	1,881.8	1,804.8	11.1	11.2	41.82	227.9	-346.6	69.5	50.0	3.564		
2,000.0	1,921.1	1,981.6	1,892.5	11.5	11.6	43.33	258.3	-383.4	75.5	54.9	3.674		
2,100.0	2,010.5	2,081.4	1,980.1	11.9	12.0	44.61	288.7	-420.3	81.5	59.8	3.759		
2,200.0	2,099.9	2,181.2	2,067.7	12.3	12.5	45.72	319.1	-457.2	87.6	64.7	3.826		
2,300.0	2,189.2	2,281.0	2,155.3	12.8	13.1	46.68	349.4	-494.1	93.7	69.5	3.875		
2,400.0	2,278.6	2,380.8	2,242.9	13.4	13.8	47.53	379.8	-531.0	99.9	74.4	3.915		
2,500.0	2,368.0	2,480.6	2,330.6	14.0	14.6	48.27	410.2	-567.8	106.0	79.2	3.945		
2,600.0	2,457.4	2,580.4	2,418.2	14.7	15.4	48.94	440.6	-604.7	112.2	83.9	3.968		
2,700.0	2,546.8	2,680.2	2,505.8	15.5	16.2	49.53	470.9	-641.6	118.4	88.7	3.986		
2,800.0	2,636.1	2,780.0	2,593.4	16.2	17.1	50.07	501.3	-678.5	124.6	93.4	3.999		
2,900.0	2,725.5	2,879.8	2,681.1	17.0	17.9	50.55	531.7	-715.3	130.8	98.2	4.009		
3,000.0	2,814.9	2,979.6	2,768.7	17.8	18.8	51.00	562.1	-752.2	137.0	102.9	4.017		
3,100.0	2,904.3	3,079.4	2,856.3	18.7	19.7	51.40	592.5	-789.1	143.2	107.6	4.022		
3,200.0	2,993.7	3,179.2	2,943.9	19.5	20.6	51.77	622.8	-826.0	149.5	112.3	4.026		
3,300.0	3,083.0	3,279.0	3,031.5	20.3	21.4	52.11	653.2	-862.9	155.7	117.1	4.028		
3,400.0	3,172.4	3,378.8	3,119.2	21.1	22.3	52.42	683.6	-899.7	162.0	121.8	4.029		
3,500.0	3,261.8	3,478.6	3,206.8	22.0	23.2	52.71	714.0	-936.6	168.2	126.5	4.030		
3,600.0	3,351.2	3,578.4	3,294.4	22.8	24.1	52.98	744.3	-973.5	174.5	131.2	4.029		
3,700.0	3,440.5	3,678.2	3,382.0	23.6	25.0	53.23	774.7	-1,010.4	180.7	135.9	4.029		
3,800.0	3,529.9	3,778.0	3,469.6	24.5	25.9	53.47	805.1	-1,047.2	187.0	140.5	4.028		
3,900.0	3,619.3	3,877.8	3,557.3	25.3	26.8	53.69	835.5	-1,084.1	193.2	145.2	4.026		
4,000.0	3,708.7	3,977.6	3,644.9	26.2	27.7	53.89	865.9	-1,121.0	199.5	149.9	4.025		
4,100.0	3,798.1	4,077.4	3,732.5	27.0	28.6	54.08	896.2	-1,157.9	205.8	154.6	4.023		
4,200.0	3,887.4	4,177.2	3,820.1	27.9	29.5	54.27	926.6	-1,194.8	212.0	159.3	4.021		
4,300.0	3,976.8	4,277.0	3,907.7	28.7	30.4	54.44	957.0	-1,231.6	218.3	164.0	4.019		
4,400.0	4,066.2	4,376.8	3,995.4	29.5	31.3	54.60	987.4	-1,268.5	224.6	168.7	4.016		
4,500.0	4,155.6	4,476.6	4,083.0	30.4	32.2	54.75	1,017.8	-1,305.4	230.8	173.3	4.014		
4,600.0	4,244.9	4,576.4	4,170.6	31.2	33.1	54.89	1,048.1	-1,342.3	237.1	178.0	4.012		
4,700.0	4,334.3	4,676.2	4,258.2	32.1	34.0	55.03	1,078.5	-1,379.2	243.4	182.7	4.010		
4,800.0	4,423.7	4,776.0	4,345.8	32.9	34.9	55.16	1,108.9	-1,416.0	249.7	187.4	4.007		
4,900.0	4,513.1	4,875.8	4,433.5	33.8	35.9	55.29	1,139.3	-1,452.9	255.9	192.0	4.005		
5,000.0	4,602.5	4,975.6	4,521.1	34.6	36.8	55.40	1,169.6	-1,489.8	262.2	196.7	4.003		
5,100.0	4,691.8	5,075.4	4,608.7	35.5	37.7	55.52	1,200.0	-1,526.7	268.5	201.4	4.001		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,200.0	4,781.2	5,175.2	4,696.3	36.3	38.6	55.62	1,230.4	-1,563.5	274.8	206.1	3.998		
5,300.0	4,870.6	5,275.0	4,784.0	37.2	39.5	55.73	1,260.8	-1,600.4	281.1	210.7	3.996		
5,400.0	4,960.0	5,374.8	4,871.6	38.1	40.4	55.82	1,291.2	-1,637.3	287.4	215.4	3.994		
5,500.0	5,049.4	5,474.6	4,959.2	38.9	41.3	55.93	1,321.5	-1,674.2	293.8	220.2	3.995		
5,600.0	5,140.3	5,583.2	5,055.6	39.7	42.2	55.92	1,353.2	-1,712.6	300.6	225.4	3.999		
5,700.0	5,233.0	5,692.3	5,154.9	40.4	43.1	55.90	1,382.1	-1,747.7	306.8	230.1	4.000		
5,800.0	5,327.1	5,801.7	5,256.4	41.0	43.8	55.89	1,408.0	-1,779.1	312.4	234.3	4.003		
5,900.0	5,422.7	5,911.3	5,359.9	41.5	44.5	55.87	1,430.8	-1,806.9	317.3	238.1	4.007		
6,000.0	5,519.4	6,021.2	5,465.3	42.0	45.0	55.84	1,450.5	-1,830.8	321.6	241.4	4.013		
6,100.0	5,617.2	6,131.2	5,572.2	42.3	45.5	55.81	1,467.0	-1,850.8	325.2	244.3	4.020		
6,200.0	5,715.8	6,241.4	5,680.4	42.6	45.8	55.78	1,480.3	-1,866.9	328.1	246.7	4.027		
6,300.0	5,815.0	6,351.7	5,789.6	42.8	46.1	55.74	1,490.2	-1,878.9	330.4	248.5	4.035		
6,400.0	5,914.7	6,462.2	5,899.5	43.0	46.3	55.70	1,496.7	-1,886.9	332.0	249.9	4.044		
6,500.0	6,014.6	6,572.6	6,009.9	43.1	46.4	55.64	1,499.9	-1,890.8	332.8	250.7	4.054		
6,600.0	6,114.6	6,677.3	6,114.6	43.1	46.4	-1.46	1,500.3	-1,891.2	333.0	251.0	4.060		
6,700.0	6,214.6	6,777.3	6,214.6	43.1	46.4	-1.46	1,500.3	-1,891.2	333.0	250.9	4.057		
6,800.0	6,314.6	6,877.3	6,314.6	43.1	46.4	-1.46	1,500.3	-1,891.2	333.0	250.9	4.054		
6,900.0	6,414.6	6,977.3	6,414.6	43.1	46.5	-1.46	1,500.3	-1,891.2	333.0	250.8	4.051		
7,000.0	6,514.6	7,077.3	6,514.6	43.2	46.5	-1.46	1,500.3	-1,891.2	333.0	250.7	4.049		
7,100.0	6,614.6	7,177.3	6,614.6	43.2	46.5	-1.46	1,500.3	-1,891.2	333.0	250.7	4.046		
7,200.0	6,714.6	7,277.3	6,714.6	43.2	46.5	-1.46	1,500.3	-1,891.2	333.0	250.6	4.043		
7,300.0	6,814.6	7,377.3	6,814.6	43.3	46.6	-1.46	1,500.3	-1,891.2	333.0	250.6	4.040		
7,400.0	6,914.6	7,477.3	6,914.6	43.3	46.6	-1.46	1,500.3	-1,891.2	333.0	250.5	4.037		
7,500.0	7,014.6	7,577.3	7,014.6	43.3	46.6	-1.46	1,500.3	-1,891.2	333.0	250.5	4.034		
7,600.0	7,114.6	7,677.3	7,114.6	43.3	46.6	-1.46	1,500.3	-1,891.2	333.0	250.4	4.031		
7,700.0	7,214.6	7,777.3	7,214.6	43.4	46.7	-1.46	1,500.3	-1,891.2	333.0	250.3	4.028		
7,800.0	7,314.6	7,877.3	7,314.6	43.4	46.7	-1.46	1,500.3	-1,891.2	333.0	250.3	4.026		
7,900.0	7,414.6	7,977.3	7,414.6	43.4	46.7	-1.46	1,500.3	-1,891.2	333.0	250.2	4.023		
8,000.0	7,514.6	8,077.3	7,514.6	43.4	46.7	-1.46	1,500.3	-1,891.2	333.0	250.2	4.020		
8,100.0	7,614.6	8,177.3	7,614.6	43.5	46.8	-1.46	1,500.3	-1,891.2	333.0	250.1	4.017		
8,200.0	7,714.6	8,277.3	7,714.6	43.5	46.8	-1.46	1,500.3	-1,891.2	333.0	250.0	4.014		
8,300.0	7,814.6	8,377.3	7,814.6	43.5	46.8	-1.46	1,500.3	-1,891.2	333.0	250.0	4.011		
8,400.0	7,914.6	8,396.7	7,834.0	43.6	46.8	-1.46	1,500.3	-1,891.2	342.6	258.5	4.073		
8,500.0	8,014.6	8,396.7	7,834.0	43.6	46.8	-1.46	1,500.3	-1,891.2	378.8	297.9	4.679		
8,600.0	8,114.6	8,396.7	7,834.0	43.6	46.8	-1.46	1,500.3	-1,891.2	435.4	359.9	5.764		
8,700.0	8,214.6	8,396.7	7,834.0	43.6	46.8	-1.46	1,500.3	-1,891.2	505.7	435.6	7.213		
8,800.0	8,314.6	8,396.7	7,834.0	43.7	46.8	-1.46	1,500.3	-1,891.2	584.7	519.2	8.930		
8,900.0	8,414.6	8,396.7	7,834.0	43.7	46.8	-1.46	1,500.3	-1,891.2	669.3	607.5	10.837		
9,000.0	8,514.6	8,396.7	7,834.0	43.7	46.8	-1.46	1,500.3	-1,891.2	757.7	698.8	12.875		
9,100.0	8,614.6	8,396.7	7,834.0	43.8	46.8	-1.46	1,500.3	-1,891.2	848.6	792.1	15.002		
9,127.4	8,642.0	8,396.7	7,834.0	43.8	46.8	-1.46	1,500.3	-1,891.2	873.9	817.9	15.597		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	133.28	-10.9	11.6	15.9				
100.0	100.0	100.0	100.0	0.4	0.4	133.28	-10.9	11.6	15.9	15.2	20.131		
200.0	200.0	200.0	200.0	1.2	1.2	133.28	-10.9	11.6	15.9	13.5	6.454		
300.0	300.0	300.0	300.0	1.7	1.7	133.28	-10.9	11.6	15.9	12.5	4.596		
400.0	400.0	400.3	400.3	2.1	2.1	136.78	-11.0	10.4	15.2	11.0	3.665		
500.0	500.0	500.5	500.3	2.5	3.5	156.87	-11.5	4.9	12.5	7.7	2.570		
547.4	547.4	547.8	547.4	2.7	4.1	-96.34	-11.9	0.8	11.9	6.9	2.388	Level 1, CC, ES	
600.0	600.0	600.2	599.5	3.1	4.7	-77.84	-12.4	-4.8	12.7	7.1	2.288	Level 1	
700.0	699.7	699.8	698.2	4.4	5.0	-52.44	-13.1	-18.7	16.6	9.1	2.228	Level 1	
800.0	799.1	799.5	796.3	5.4	5.5	-34.67	-11.6	-36.1	20.3	10.5	2.072	Level 1, SF	
900.0	898.0	898.8	893.4	5.7	6.3	-28.41	-7.4	-56.7	24.3	12.8	2.118	Level 1	
1,000.0	996.3	997.9	989.2	6.2	7.0	-26.01	-0.5	-80.6	29.7	16.7	2.284	Level 1	
1,100.0	1,093.8	1,096.6	1,083.7	6.9	7.7	-25.00	8.8	-107.6	35.9	21.5	2.492	Level 1	
1,200.0	1,190.4	1,195.1	1,176.7	7.6	8.4	-24.90	20.7	-137.7	42.8	27.0	2.712		
1,300.0	1,285.8	1,293.2	1,268.0	8.2	9.0	-25.36	35.1	-170.7	50.0	32.9	2.928		
1,400.0	1,380.0	1,392.1	1,358.7	8.9	9.3	-26.50	51.7	-206.6	57.0	38.9	3.155		
1,500.0	1,472.6	1,492.0	1,450.0	9.5	9.7	-29.88	68.8	-243.2	61.2	42.2	3.217		
1,600.0	1,563.5	1,591.9	1,541.3	10.1	10.0	-35.63	85.9	-279.8	62.5	42.6	3.145		
1,700.0	1,653.0	1,691.6	1,632.6	10.4	10.4	-42.80	103.0	-316.4	62.2	41.8	3.059		
1,705.5	1,657.9	1,697.1	1,637.6	10.4	10.4	-43.19	103.9	-318.4	62.2	41.8	3.055		
1,800.0	1,742.4	1,791.3	1,723.7	10.7	10.8	-49.77	120.0	-352.9	62.6	41.8	3.007		
1,900.0	1,831.7	1,891.0	1,814.9	11.1	11.2	-56.55	137.1	-389.4	63.9	42.5	2.985		
2,000.0	1,921.1	1,990.7	1,906.1	11.5	11.6	-62.97	154.2	-426.0	66.1	43.9	2.983		
2,100.0	2,010.5	2,090.4	1,997.3	11.9	12.1	-68.92	171.2	-462.5	69.0	46.0	2.997		
2,200.0	2,099.9	2,190.1	2,088.5	12.3	12.5	-74.32	188.3	-499.1	72.7	48.6	3.016		
2,300.0	2,189.2	2,289.9	2,179.7	12.8	13.1	-79.18	205.3	-535.6	76.9	51.6	3.041		
2,400.0	2,278.6	2,389.6	2,270.9	13.4	13.6	-83.50	222.4	-572.1	81.6	55.0	3.071		
2,500.0	2,368.0	2,489.3	2,362.1	14.0	14.3	-87.33	239.5	-608.7	86.7	58.8	3.104		
2,600.0	2,457.4	2,589.0	2,453.3	14.7	14.9	-90.73	256.5	-645.2	92.2	62.9	3.141		
2,700.0	2,546.8	2,688.7	2,544.5	15.5	15.6	-93.73	273.6	-681.8	98.0	67.2	3.180		
2,800.0	2,636.1	2,788.4	2,635.6	16.2	16.3	-96.40	290.7	-718.3	104.0	71.7	3.220		
2,900.0	2,725.5	2,888.1	2,726.8	17.0	17.0	-98.77	307.7	-754.8	110.2	76.4	3.262		
3,000.0	2,814.9	2,987.8	2,818.0	17.8	17.8	-100.88	324.8	-791.4	116.5	81.3	3.304		
3,100.0	2,904.3	3,087.5	2,909.2	18.7	18.5	-102.78	341.8	-827.9	123.0	86.3	3.347		
3,200.0	2,993.7	3,187.2	3,000.4	19.5	19.2	-104.48	358.9	-864.5	129.7	91.4	3.389		
3,300.0	3,083.0	3,286.9	3,091.6	20.3	20.0	-106.01	376.0	-901.0	136.4	96.6	3.430		
3,400.0	3,172.4	3,386.7	3,182.8	21.1	20.7	-107.40	393.0	-937.5	143.2	102.0	3.471		
3,500.0	3,261.8	3,486.4	3,274.0	22.0	21.5	-108.67	410.1	-974.1	150.1	107.4	3.511		
3,600.0	3,351.2	3,586.1	3,365.2	22.8	22.2	-109.82	427.2	-1,010.6	157.1	112.8	3.549		
3,700.0	3,440.5	3,685.8	3,456.4	23.6	23.0	-110.87	444.2	-1,047.2	164.1	118.4	3.587		
3,800.0	3,529.9	3,785.5	3,547.6	24.5	23.7	-111.84	461.3	-1,083.7	171.2	123.9	3.624		
3,900.0	3,619.3	3,885.2	3,638.7	25.3	24.5	-112.73	478.3	-1,120.2	178.3	129.6	3.659		
4,000.0	3,708.7	3,984.9	3,729.9	26.2	25.2	-113.55	495.4	-1,156.8	185.5	135.2	3.693		
4,100.0	3,798.1	4,084.6	3,821.1	27.0	26.0	-114.31	512.5	-1,193.3	192.7	140.9	3.726		
4,200.0	3,887.4	4,184.3	3,912.3	27.9	26.7	-115.02	529.5	-1,229.9	199.9	146.7	3.758		
4,300.0	3,976.8	4,284.0	4,003.5	28.7	27.5	-115.68	546.6	-1,266.4	207.1	152.5	3.789		
4,400.0	4,066.2	4,383.8	4,094.7	29.5	28.3	-116.29	563.6	-1,302.9	214.4	158.3	3.819		
4,500.0	4,155.6	4,483.5	4,185.9	30.4	29.0	-116.86	580.7	-1,339.5	221.7	164.1	3.847		
4,600.0	4,244.9	4,583.2	4,277.1	31.2	29.8	-117.40	597.8	-1,376.0	229.0	169.9	3.875		
4,700.0	4,334.3	4,682.9	4,368.3	32.1	30.5	-117.90	614.8	-1,412.6	236.4	175.8	3.902		
4,800.0	4,423.7	4,782.6	4,459.5	32.9	31.3	-118.37	631.9	-1,449.1	243.7	181.7	3.928		
4,900.0	4,513.1	4,882.3	4,550.7	33.8	32.0	-118.82	649.0	-1,485.6	251.1	187.6	3.952		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
5,000.0	4,602.5	4,982.0	4,641.8	34.6	32.8	-119.23	666.0	-1,522.2	258.5	193.5	3.976	
5,100.0	4,691.8	5,081.7	4,733.0	35.5	33.6	-119.63	683.1	-1,558.7	265.9	199.4	4.000	
5,200.0	4,781.2	5,181.4	4,824.2	36.3	34.3	-120.00	700.1	-1,595.3	273.3	205.3	4.022	
5,300.0	4,870.6	5,281.1	4,915.4	37.2	35.1	-120.36	717.2	-1,631.8	280.7	211.3	4.044	
5,400.0	4,960.0	5,380.8	5,006.6	38.1	35.9	-120.69	734.3	-1,668.3	288.1	217.2	4.065	
5,500.0	5,049.4	5,480.6	5,097.8	38.9	36.6	-121.03	751.3	-1,704.9	295.5	223.1	4.084	
5,600.0	5,140.3	5,576.3	5,185.9	39.7	37.3	-121.13	767.2	-1,738.9	301.7	227.9	4.089	
5,700.0	5,233.0	5,671.1	5,274.5	40.4	37.9	-121.22	781.4	-1,769.3	307.2	232.2	4.093	
5,800.0	5,327.1	5,765.8	5,364.4	41.0	38.5	-121.30	794.0	-1,796.4	312.2	236.0	4.097	
5,900.0	5,422.7	5,860.5	5,455.3	41.5	38.9	-121.38	805.1	-1,820.0	316.6	239.4	4.102	
6,000.0	5,519.4	5,955.1	5,547.3	42.0	39.3	-121.45	814.5	-1,840.3	320.4	242.4	4.107	
6,100.0	5,617.2	6,049.7	5,640.1	42.3	39.7	-121.52	822.4	-1,857.0	323.5	244.8	4.111	
6,200.0	5,715.8	6,144.2	5,733.5	42.6	39.9	-121.59	828.6	-1,870.3	326.1	246.8	4.115	
6,300.0	5,815.0	6,238.8	5,827.4	42.8	40.1	-121.65	833.1	-1,880.1	328.0	248.4	4.119	
6,400.0	5,914.7	6,333.3	5,921.6	43.0	40.3	-121.71	836.1	-1,886.4	329.3	249.4	4.121	
6,500.0	6,014.6	6,427.8	6,016.1	43.1	40.3	-121.77	837.3	-1,889.1	330.0	250.0	4.124	
6,600.0	6,114.6	6,526.3	6,114.6	43.1	40.4	-178.87	837.4	-1,889.2	330.0	250.0	4.124	
6,700.0	6,214.6	6,626.3	6,214.6	43.1	40.4	-178.87	837.4	-1,889.2	330.0	250.0	4.121	
6,800.0	6,314.6	6,726.3	6,314.6	43.1	40.4	-178.87	837.4	-1,889.2	330.0	249.9	4.118	
6,900.0	6,414.6	6,826.3	6,414.6	43.1	40.4	-178.87	837.4	-1,889.2	330.0	249.8	4.115	
7,000.0	6,514.6	6,926.3	6,514.6	43.2	40.5	-178.87	837.4	-1,889.2	330.0	249.8	4.112	
7,100.0	6,614.6	7,026.3	6,614.6	43.2	40.5	-178.87	837.4	-1,889.2	330.0	249.7	4.109	
7,200.0	6,714.6	7,126.3	6,714.6	43.2	40.5	-178.87	837.4	-1,889.2	330.0	249.7	4.106	
7,300.0	6,814.6	7,226.3	6,814.6	43.3	40.5	-178.87	837.4	-1,889.2	330.0	249.6	4.103	
7,400.0	6,914.6	7,326.3	6,914.6	43.3	40.6	-178.87	837.4	-1,889.2	330.0	249.5	4.100	
7,500.0	7,014.6	7,426.3	7,014.6	43.3	40.6	-178.87	837.4	-1,889.2	330.0	249.5	4.097	
7,600.0	7,114.6	7,526.3	7,114.6	43.3	40.6	-178.87	837.4	-1,889.2	330.0	249.4	4.094	
7,700.0	7,214.6	7,626.3	7,214.6	43.4	40.7	-178.87	837.4	-1,889.2	330.0	249.4	4.091	
7,800.0	7,314.6	7,726.3	7,314.6	43.4	40.7	-178.87	837.4	-1,889.2	330.0	249.3	4.088	
7,900.0	7,414.6	7,826.3	7,414.6	43.4	40.7	-178.87	837.4	-1,889.2	330.0	249.2	4.085	
8,000.0	7,514.6	7,926.3	7,514.6	43.4	40.7	-178.87	837.4	-1,889.2	330.0	249.2	4.082	
8,100.0	7,614.6	8,026.3	7,614.6	43.5	40.8	-178.87	837.4	-1,889.2	330.0	249.1	4.079	
8,200.0	7,714.6	8,126.3	7,714.6	43.5	40.8	-178.87	837.4	-1,889.2	330.0	249.1	4.075	
8,300.0	7,814.6	8,226.3	7,814.6	43.5	40.8	-178.87	837.4	-1,889.2	330.0	249.0	4.073	
8,400.0	7,914.6	8,326.3	7,914.6	43.6	40.8	-178.87	837.4	-1,889.2	344.2	268.2	4.531	
8,500.0	8,014.6	8,426.3	8,014.6	43.6	40.8	-178.87	837.4	-1,889.2	384.7	316.9	5.679	
8,600.0	8,114.6	8,526.3	8,114.6	43.6	40.8	-178.87	837.4	-1,889.2	444.4	384.7	7.447	
8,700.0	8,214.6	8,626.3	8,214.6	43.6	40.8	-178.87	837.4	-1,889.2	516.7	463.4	9.698	
8,800.0	8,314.6	8,726.3	8,314.6	43.7	40.8	-178.87	837.4	-1,889.2	597.1	548.4	12.274	
8,900.0	8,414.6	8,826.3	8,414.6	43.7	40.8	-178.87	837.4	-1,889.2	682.7	637.2	15.029	
9,000.0	8,514.6	8,926.3	8,514.6	43.7	40.8	-178.87	837.4	-1,889.2	771.7	728.5	17.856	
9,100.0	8,614.6	9,026.3	8,614.6	43.8	40.8	-178.87	837.4	-1,889.2	863.2	821.4	20.684	
9,127.4	8,642.0	9,053.7	8,642.0	43.8	40.8	-178.87	837.4	-1,889.2	888.6	847.2	21.456	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	133.25	-21.9	23.2	31.9				
100.0	100.0	100.0	100.0	0.4	0.4	133.25	-21.9	23.2	31.9	31.1	40.262		
200.0	200.0	200.0	200.0	1.2	1.2	133.25	-21.9	23.2	31.9	29.4	12.908		
300.0	300.0	300.4	300.4	1.7	1.5	134.08	-22.0	22.7	31.6	28.4	9.795		
400.0	400.0	401.0	400.9	2.1	2.9	141.26	-22.9	18.4	29.4	25.1	6.922		
500.0	500.0	501.0	500.5	2.5	4.3	158.37	-24.7	9.8	26.6	21.8	5.569		
534.1	534.1	534.9	534.2	2.7	4.6	-103.61	-25.5	5.9	26.3	21.4	5.355	CC, ES	
600.0	600.0	600.3	599.0	3.1	5.3	-88.38	-27.4	-2.9	27.4	21.9	4.985		
700.0	699.7	700.2	697.4	4.4	5.6	-69.53	-29.7	-19.6	31.7	24.7	4.502		
800.0	799.1	799.8	794.9	5.4	6.3	-55.05	-29.6	-39.9	36.1	26.9	3.926		
900.0	898.0	899.2	891.4	5.7	6.9	-51.55	-27.1	-63.6	41.0	30.1	3.764	SF	
1,000.0	996.3	998.1	986.4	6.2	7.6	-49.90	-22.3	-90.6	48.0	35.5	3.816		
1,100.0	1,093.8	1,096.6	1,079.9	6.9	8.2	-48.66	-15.2	-120.9	56.6	42.5	4.024		
1,200.0	1,190.4	1,194.7	1,171.6	7.6	8.9	-47.99	-5.8	-154.3	66.3	51.0	4.317		
1,300.0	1,285.8	1,293.9	1,263.4	8.2	9.2	-48.61	5.2	-190.4	76.1	59.8	4.664		
1,400.0	1,380.0	1,393.5	1,355.5	8.9	9.5	-51.72	16.3	-226.6	84.3	67.2	4.923		
1,500.0	1,472.6	1,493.1	1,447.6	9.5	9.9	-56.76	27.5	-262.8	91.1	73.3	5.120		
1,600.0	1,563.5	1,592.5	1,539.5	10.1	10.2	-63.47	38.6	-299.0	97.0	78.7	5.302		
1,700.0	1,653.0	1,691.6	1,631.2	10.4	10.6	-70.54	49.6	-335.0	103.3	84.6	5.531		
1,800.0	1,742.4	1,790.7	1,722.8	10.7	11.0	-76.57	60.7	-371.1	110.8	91.5	5.740		
1,900.0	1,831.7	1,889.8	1,814.4	11.1	11.4	-81.80	71.8	-407.1	119.5	99.3	5.924		
2,000.0	1,921.1	1,988.9	1,906.0	11.5	11.9	-86.29	82.8	-443.2	128.9	107.7	6.084		
2,100.0	2,010.5	2,087.9	1,997.7	11.9	12.3	-90.16	93.9	-479.2	139.1	116.7	6.223		
2,200.0	2,099.9	2,187.0	2,089.3	12.3	12.8	-93.49	105.0	-515.2	149.8	126.2	6.347		
2,300.0	2,189.2	2,286.1	2,180.9	12.8	13.3	-96.37	116.0	-551.3	161.0	136.0	6.459		
2,400.0	2,278.6	2,385.1	2,272.5	13.4	13.8	-98.87	127.1	-587.3	172.5	146.2	6.562		
2,500.0	2,368.0	2,484.2	2,364.1	14.0	14.4	-101.06	138.2	-623.4	184.2	156.6	6.658		
2,600.0	2,457.4	2,583.3	2,455.8	14.7	15.0	-102.98	149.2	-659.4	196.2	167.2	6.748		
2,700.0	2,546.8	2,682.4	2,547.4	15.5	15.6	-104.68	160.3	-695.4	208.5	178.0	6.833		
2,800.0	2,636.1	2,781.4	2,639.0	16.2	16.3	-106.20	171.4	-731.5	220.8	188.9	6.914		
2,900.0	2,725.5	2,880.5	2,730.6	17.0	16.9	-107.55	182.4	-767.5	233.3	200.0	6.990		
3,000.0	2,814.9	2,979.6	2,822.2	17.8	17.6	-108.76	193.5	-803.5	246.0	211.1	7.062		
3,100.0	2,904.3	3,078.7	2,913.8	18.7	18.3	-109.86	204.6	-839.6	258.7	222.4	7.130		
3,200.0	2,993.7	3,177.7	3,005.5	19.5	19.0	-110.85	215.6	-875.6	271.5	233.8	7.196		
3,300.0	3,083.0	3,276.8	3,097.1	20.3	19.6	-111.75	226.7	-911.7	284.4	245.2	7.257		
3,400.0	3,172.4	3,375.9	3,188.7	21.1	20.3	-112.58	237.8	-947.7	297.3	256.7	7.316		
3,500.0	3,261.8	3,474.9	3,280.3	22.0	21.0	-113.33	248.8	-983.7	310.3	268.2	7.372		
3,600.0	3,351.2	3,574.0	3,371.9	22.8	21.7	-114.03	259.9	-1,019.8	323.3	279.8	7.426		
3,700.0	3,440.5	3,673.1	3,463.6	23.6	22.4	-114.67	271.0	-1,055.8	336.4	291.4	7.476		
3,800.0	3,529.9	3,772.2	3,555.2	24.5	23.1	-115.26	282.0	-1,091.9	349.6	303.1	7.525		
3,900.0	3,619.3	3,871.2	3,646.8	25.3	23.8	-115.81	293.1	-1,127.9	362.7	314.8	7.571		
4,000.0	3,708.7	3,970.3	3,738.4	26.2	24.5	-116.33	304.2	-1,163.9	375.9	326.5	7.615		
4,100.0	3,798.1	4,069.4	3,830.0	27.0	25.2	-116.80	315.2	-1,200.0	389.1	338.3	7.657		
4,200.0	3,887.4	4,168.4	3,921.7	27.9	25.9	-117.25	326.3	-1,236.0	402.4	350.1	7.697		
4,300.0	3,976.8	4,267.5	4,013.3	28.7	26.6	-117.67	337.4	-1,272.1	415.6	361.9	7.736		
4,400.0	4,066.2	4,366.6	4,104.9	29.5	27.3	-118.06	348.4	-1,308.1	428.9	373.7	7.773		
4,500.0	4,155.6	4,465.7	4,196.5	30.4	28.0	-118.42	359.5	-1,344.1	442.2	385.6	7.808		
4,600.0	4,244.9	4,564.7	4,288.1	31.2	28.7	-118.77	370.6	-1,380.2	455.6	397.5	7.842		
4,700.0	4,334.3	4,663.8	4,379.7	32.1	29.4	-119.10	381.6	-1,416.2	468.9	409.3	7.874		
4,800.0	4,423.7	4,762.9	4,471.4	32.9	30.1	-119.41	392.7	-1,452.2	482.2	421.2	7.906		
4,900.0	4,513.1	4,861.9	4,563.0	33.8	30.8	-119.70	403.8	-1,488.3	495.6	433.2	7.935		
5,000.0	4,602.5	4,961.0	4,654.6	34.6	31.5	-119.98	414.8	-1,524.3	509.0	445.1	7.964		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
5,100.0	4,691.8	5,060.1	4,746.2	35.5	32.2	-120.24	425.9	-1,560.4	522.4	457.0	7.992	
5,200.0	4,781.2	5,159.2	4,837.8	36.3	32.9	-120.49	437.0	-1,596.4	535.8	469.0	8.018	
5,300.0	4,870.6	5,258.2	4,929.5	37.2	33.7	-120.72	448.0	-1,632.4	549.2	480.9	8.044	
5,400.0	4,960.0	5,357.3	5,021.1	38.1	34.4	-120.95	459.1	-1,668.5	562.6	492.9	8.069	
5,500.0	5,049.4	5,456.4	5,112.7	38.9	35.1	-121.23	470.2	-1,704.5	575.9	504.7	8.092	
5,600.0	5,140.3	5,552.5	5,201.8	39.7	35.7	-121.44	480.8	-1,739.1	587.7	515.1	8.098	
5,700.0	5,233.0	5,645.1	5,288.7	40.4	36.3	-121.59	490.2	-1,769.6	598.1	524.3	8.103	
5,800.0	5,327.1	5,737.7	5,376.8	41.0	36.8	-121.72	498.5	-1,796.7	607.5	532.6	8.107	
5,900.0	5,422.7	5,830.3	5,466.1	41.5	37.3	-121.84	505.7	-1,820.4	615.7	539.8	8.112	
6,000.0	5,519.4	5,923.0	5,556.3	42.0	37.7	-121.95	511.9	-1,840.6	622.8	546.0	8.117	
6,100.0	5,617.2	6,015.6	5,647.2	42.3	38.0	-122.06	517.1	-1,857.3	628.7	551.3	8.122	
6,200.0	5,715.8	6,108.3	5,738.9	42.6	38.2	-122.15	521.1	-1,870.4	633.4	555.5	8.125	
6,300.0	5,815.0	6,200.0	5,830.0	42.8	38.4	-122.23	524.1	-1,880.0	637.0	558.6	8.129	
6,400.0	5,914.7	6,293.6	5,923.4	43.0	38.5	-122.30	525.9	-1,886.1	639.4	560.7	8.129	
6,500.0	6,014.6	6,386.2	6,016.0	43.1	38.6	-122.37	526.7	-1,888.6	640.6	561.7	8.126	
6,600.0	6,114.6	6,484.8	6,114.6	43.1	38.7	-179.46	526.7	-1,888.7	640.7	561.8	8.119	
6,700.0	6,214.6	6,584.8	6,214.6	43.1	38.7	-179.46	526.7	-1,888.7	640.7	561.7	8.113	
6,800.0	6,314.6	6,684.8	6,314.6	43.1	38.7	-179.46	526.7	-1,888.7	640.7	561.7	8.107	
6,900.0	6,414.6	6,784.8	6,414.6	43.1	38.8	-179.46	526.7	-1,888.7	640.7	561.6	8.101	
7,000.0	6,514.6	6,884.8	6,514.6	43.2	38.8	-179.46	526.7	-1,888.7	640.7	561.5	8.095	
7,100.0	6,614.6	6,984.8	6,614.6	43.2	38.8	-179.46	526.7	-1,888.7	640.7	561.5	8.089	
7,200.0	6,714.6	7,084.8	6,714.6	43.2	38.9	-179.46	526.7	-1,888.7	640.7	561.4	8.083	
7,300.0	6,814.6	7,184.8	6,814.6	43.3	38.9	-179.46	526.7	-1,888.7	640.7	561.4	8.077	
7,400.0	6,914.6	7,284.8	6,914.6	43.3	38.9	-179.46	526.7	-1,888.7	640.7	561.3	8.071	
7,500.0	7,014.6	7,384.8	7,014.6	43.3	39.0	-179.46	526.7	-1,888.7	640.7	561.2	8.065	
7,600.0	7,114.6	7,484.8	7,114.6	43.3	39.0	-179.46	526.7	-1,888.7	640.7	561.2	8.059	
7,700.0	7,214.6	7,584.8	7,214.6	43.4	39.0	-179.46	526.7	-1,888.7	640.7	561.1	8.053	
7,800.0	7,314.6	7,684.8	7,314.6	43.4	39.0	-179.46	526.7	-1,888.7	640.7	561.1	8.047	
7,900.0	7,414.6	7,784.8	7,414.6	43.4	39.1	-179.46	526.7	-1,888.7	640.7	561.0	8.041	
8,000.0	7,514.6	7,884.8	7,514.6	43.4	39.1	-179.46	526.7	-1,888.7	640.7	560.9	8.034	
8,100.0	7,614.6	7,984.8	7,614.6	43.5	39.1	-179.46	526.7	-1,888.7	640.7	560.9	8.028	
8,200.0	7,714.6	8,084.8	7,714.6	43.5	39.2	-179.46	526.7	-1,888.7	640.7	560.8	8.022	
8,300.0	7,814.6	8,184.8	7,814.6	43.5	39.2	-179.46	526.7	-1,888.7	640.7	560.8	8.016	
8,400.0	7,914.6	8,284.8	7,914.6	43.6	39.2	-179.46	526.7	-1,888.7	640.7	560.7	8.010	
8,500.0	8,014.6	8,384.8	8,014.6	43.6	39.3	-179.46	526.7	-1,888.7	640.7	560.6	8.003	
8,600.0	8,114.6	8,484.8	8,114.6	43.6	39.3	-179.46	526.7	-1,888.7	640.7	560.6	7.997	
8,700.0	8,214.6	8,584.8	8,214.6	43.6	39.3	-179.46	526.7	-1,888.7	640.7	560.5	7.991	
8,800.0	8,314.6	8,684.8	8,314.6	43.7	39.3	-179.46	526.7	-1,888.7	640.7	560.4	7.985	
8,900.0	8,414.6	8,784.8	8,414.6	43.7	39.4	-179.46	526.7	-1,888.7	640.7	560.4	7.978	
9,000.0	8,514.6	8,884.8	8,514.6	43.7	39.4	-179.46	526.7	-1,888.7	640.7	560.3	7.972	
9,100.0	8,614.6	8,984.8	8,614.6	43.8	39.4	-179.46	526.7	-1,888.7	640.7	560.3	7.966	
9,102.7	8,617.3	8,987.5	8,617.3	43.8	39.4	-179.46	526.7	-1,888.7	640.7	560.3	7.966	
9,127.4	8,642.0	8,996.2	8,626.0	43.8	39.4	-179.46	526.7	-1,888.7	640.9	560.7	7.989	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-46.60	49.5	-52.4	72.1				
100.0	100.0	100.0	100.0	0.4	0.4	-46.60	49.5	-52.4	72.1	71.3	91.013		
200.0	200.0	200.0	200.0	1.2	1.2	-46.60	49.5	-52.4	72.1	69.6	29.179	CC	
300.0	300.0	299.4	299.4	1.7	1.7	-45.67	50.6	-51.8	72.4	69.1	22.171	ES	
400.0	400.0	398.4	398.2	2.1	3.3	-41.66	55.2	-49.1	73.9	69.7	17.501		
500.0	500.0	496.7	496.0	2.5	4.5	-34.98	63.5	-44.4	77.6	72.3	14.663		
600.0	600.0	593.8	592.2	3.1	5.5	64.52	75.3	-37.7	83.6	76.9	12.530		
700.0	699.7	688.9	685.7	4.4	6.4	76.49	90.2	-29.3	93.6	85.3	11.384	SF	
800.0	799.1	781.3	775.9	5.4	7.1	88.61	107.9	-19.2	110.4	100.8	11.432		
900.0	898.0	870.7	862.2	5.7	7.8	90.71	128.1	-7.7	134.7	123.7	12.223		
1,000.0	996.3	957.5	945.1	6.2	8.4	91.79	150.4	5.0	164.5	152.0	13.122		
1,100.0	1,093.8	1,041.5	1,024.3	6.9	9.0	93.29	174.6	18.7	199.4	185.6	14.481		
1,200.0	1,190.4	1,122.5	1,099.8	7.6	9.5	94.71	200.4	33.4	238.9	224.2	16.241		
1,300.0	1,285.8	1,200.0	1,170.9	8.2	10.0	95.86	227.1	48.6	282.7	267.2	18.236		
1,400.0	1,380.0	1,275.6	1,239.2	8.9	10.5	96.79	255.2	64.6	330.4	314.1	20.307		
1,500.0	1,472.6	1,347.5	1,303.2	9.5	10.9	97.39	283.8	80.8	381.7	364.7	22.451		
1,600.0	1,563.5	1,416.4	1,363.5	10.1	11.3	97.72	312.7	97.3	436.4	418.7	24.614		
1,700.0	1,653.0	1,482.5	1,420.3	10.4	11.7	99.54	342.0	113.9	494.2	475.8	26.835		
1,800.0	1,742.4	1,546.4	1,474.4	10.7	12.0	101.72	371.6	130.7	554.9	535.9	29.150		
1,900.0	1,831.7	1,618.7	1,534.7	11.1	12.2	103.68	406.2	150.4	617.7	597.9	31.244		
2,000.0	1,921.1	1,694.7	1,598.1	11.5	12.5	105.38	442.6	171.1	680.9	660.3	33.063		
2,100.0	2,010.5	1,770.7	1,661.5	11.9	12.7	106.80	479.1	191.8	744.4	722.9	34.689		
2,200.0	2,099.9	1,846.7	1,724.9	12.3	13.0	108.01	515.5	212.5	808.1	785.8	36.148		
2,300.0	2,189.2	1,922.7	1,788.3	12.8	13.3	109.04	551.9	233.2	872.1	848.8	37.456		
2,400.0	2,278.6	1,998.6	1,851.7	13.4	13.5	109.93	588.3	254.0	936.1	911.9	38.629		
2,500.0	2,368.0	2,074.6	1,915.1	14.0	13.8	110.71	624.8	274.7	1,000.3	975.1	39.684		
2,600.0	2,457.4	2,150.6	1,978.5	14.7	14.1	111.40	661.2	295.4	1,064.6	1,038.4	40.633		
2,700.0	2,546.8	2,226.6	2,041.9	15.5	14.4	112.01	697.6	316.1	1,129.0	1,101.8	41.492		
2,800.0	2,636.1	2,302.6	2,105.3	16.2	14.7	112.56	734.0	336.8	1,193.5	1,165.2	42.252		
2,900.0	2,725.5	2,378.6	2,168.7	17.0	15.2	113.05	770.5	357.5	1,258.0	1,228.7	42.916		
3,000.0	2,814.9	2,454.6	2,232.1	17.8	15.9	113.49	806.9	378.2	1,322.5	1,292.2	43.567		
3,100.0	2,904.3	2,530.5	2,295.5	18.7	16.6	113.89	843.3	398.9	1,387.1	1,355.7	44.145		
3,200.0	2,993.7	2,606.5	2,358.9	19.5	17.3	114.26	879.7	419.6	1,451.8	1,419.3	44.669		
3,300.0	3,083.0	2,682.5	2,422.2	20.3	18.1	114.59	916.1	440.3	1,516.4	1,482.8	45.144		
3,400.0	3,172.4	2,758.5	2,485.6	21.1	18.8	114.90	952.6	461.0	1,581.1	1,546.4	45.579		
3,500.0	3,261.8	2,834.5	2,549.0	22.0	19.5	115.19	989.0	481.7	1,645.8	1,610.0	45.978		
3,600.0	3,351.2	2,910.5	2,612.4	22.8	20.2	115.45	1,025.4	502.5	1,710.6	1,673.7	46.345		
3,700.0	3,440.5	2,986.5	2,675.8	23.6	20.9	115.69	1,061.8	523.2	1,775.3	1,737.3	46.683		
3,800.0	3,529.9	3,062.5	2,739.2	24.5	21.6	115.92	1,098.3	543.9	1,840.1	1,801.0	46.993		
3,900.0	3,619.3	3,138.4	2,802.6	25.3	22.4	116.13	1,134.7	564.6	1,904.9	1,864.6	47.281		
4,000.0	3,708.7	3,214.4	2,866.0	26.2	23.1	116.33	1,171.1	585.3	1,969.7	1,928.3	47.547		
4,100.0	3,798.1	3,290.4	2,929.4	27.0	23.8	116.51	1,207.5	606.0	2,034.5	1,992.0	47.794		
4,200.0	3,887.4	3,366.4	2,992.8	27.9	24.5	116.69	1,244.0	626.7	2,099.4	2,055.7	48.023		
4,300.0	3,976.8	3,442.4	3,056.2	28.7	25.2	116.85	1,280.4	647.4	2,164.2	2,119.3	48.237		
4,400.0	4,066.2	3,518.4	3,119.6	29.5	26.0	117.00	1,316.8	668.1	2,229.1	2,183.0	48.436		
4,500.0	4,155.6	3,594.4	3,183.0	30.4	26.7	117.15	1,353.2	688.8	2,293.9	2,246.7	48.622		
4,600.0	4,244.9	3,670.4	3,246.3	31.2	27.4	117.28	1,389.6	709.5	2,358.8	2,310.5	48.796		
4,700.0	4,334.3	3,746.3	3,309.7	32.1	28.1	117.41	1,426.1	730.2	2,423.7	2,374.2	48.959		
4,800.0	4,423.7	3,822.3	3,373.1	32.9	28.8	117.54	1,462.5	751.0	2,488.6	2,437.9	49.112		
4,900.0	4,513.1	3,898.3	3,436.5	33.8	29.6	117.65	1,498.9	771.7	2,553.4	2,501.6	49.255		
5,000.0	4,602.5	3,974.3	3,499.9	34.6	30.3	117.77	1,535.3	792.4	2,618.3	2,565.3	49.390		
5,100.0	4,691.8	4,050.3	3,563.3	35.5	31.0	117.87	1,571.8	813.1	2,683.2	2,629.0	49.517		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,200.0	4,781.2	4,126.3	3,626.7	36.3	31.7	117.97	1,608.2	833.8	2,748.1	2,692.8	49.637		
5,300.0	4,870.6	4,202.3	3,690.1	37.2	32.5	118.07	1,644.6	854.5	2,813.1	2,756.5	49.750		
5,400.0	4,960.0	4,278.3	3,753.5	38.1	33.2	118.16	1,681.0	875.2	2,878.0	2,820.2	49.856		
5,500.0	5,049.4	4,354.3	3,816.9	38.9	33.9	118.81	1,717.5	895.9	2,942.8	2,883.9	49.962		
5,600.0	5,140.3	4,431.5	3,881.3	39.7	34.6	120.61	1,754.5	917.0	3,006.4	2,946.4	50.056		
5,700.0	5,233.0	4,509.9	3,946.8	40.4	35.4	122.21	1,792.1	938.3	3,068.3	3,007.1	50.135		
5,800.0	5,327.1	4,589.6	4,013.2	41.0	36.1	123.62	1,830.2	960.0	3,128.4	3,066.1	50.212		
5,900.0	5,422.7	4,670.2	4,080.5	41.5	36.9	124.86	1,868.9	982.0	3,186.5	3,123.1	50.287		
6,000.0	5,519.4	4,751.7	4,148.5	42.0	37.7	125.94	1,908.0	1,004.2	3,242.6	3,178.2	50.362		
6,100.0	5,617.2	4,834.0	4,217.1	42.3	38.5	126.87	1,947.4	1,026.6	3,296.7	3,231.3	50.437		
6,200.0	5,715.8	4,916.7	4,286.1	42.6	39.3	127.67	1,987.1	1,049.2	3,348.7	3,282.4	50.515		
6,300.0	5,815.0	4,999.9	4,355.5	42.8	40.0	128.34	2,026.9	1,071.9	3,398.5	3,331.3	50.597		
6,400.0	5,914.7	5,083.3	4,425.1	43.0	40.8	128.90	2,066.9	1,094.6	3,446.2	3,378.2	50.686		
6,500.0	6,014.6	5,166.8	4,494.7	43.1	41.6	129.35	2,106.9	1,117.3	3,491.7	3,422.9	50.787		
6,600.0	6,114.6	5,250.2	4,564.3	43.1	42.4	129.65	2,146.9	1,140.1	3,535.5	3,466.1	50.963		
6,700.0	6,214.6	5,333.6	4,633.9	43.1	43.2	129.81	2,186.9	1,162.8	3,579.5	3,509.5	51.142		
6,800.0	6,314.6	5,417.0	4,703.5	43.1	44.0	130.00	2,226.9	1,185.5	3,623.5	3,553.5	51.321		
6,900.0	6,414.6	5,500.3	4,773.1	43.1	44.8	130.16	2,266.9	1,208.2	3,667.5	3,597.5	51.500		
7,000.0	6,514.6	5,583.6	4,842.7	43.2	45.6	130.31	2,306.9	1,230.9	3,711.5	3,641.5	51.679		
7,100.0	6,614.6	5,667.0	4,912.3	43.2	46.4	130.47	2,346.9	1,253.6	3,755.5	3,685.5	51.858		
7,200.0	6,714.6	5,750.3	4,981.9	43.2	47.2	130.62	2,386.9	1,276.3	3,799.5	3,729.5	52.037		
7,300.0	6,814.6	5,833.6	5,051.5	43.3	48.0	130.78	2,426.9	1,299.0	3,843.5	3,773.5	52.216		
7,400.0	6,914.6	5,917.0	5,121.1	43.3	48.8	130.93	2,466.9	1,321.7	3,887.5	3,817.5	52.395		
7,500.0	7,014.6	6,000.3	5,190.7	43.3	49.6	131.09	2,506.9	1,344.4	3,931.5	3,861.5	52.574		
7,600.0	7,114.6	6,083.6	5,260.3	43.3	50.4	131.24	2,546.9	1,367.1	3,975.5	3,905.5	52.753		
7,700.0	7,214.6	6,167.0	5,329.9	43.4	51.2	131.40	2,586.9	1,389.8	4,019.5	3,949.5	52.932		
7,800.0	7,314.6	6,250.3	5,399.5	43.4	52.0	131.55	2,626.9	1,412.5	4,063.5	3,993.5	53.111		
7,900.0	7,414.6	6,333.6	5,469.1	43.4	52.8	131.71	2,666.9	1,435.2	4,107.5	4,037.5	53.290		
8,000.0	7,514.6	6,417.0	5,538.7	43.4	53.6	131.86	2,706.9	1,457.9	4,151.5	4,081.5	53.469		
8,100.0	7,614.6	6,500.3	5,608.3	43.5	54.4	132.02	2,746.9	1,480.6	4,195.5	4,125.5	53.648		
8,200.0	7,714.6	6,583.6	5,677.9	43.5	55.2	132.17	2,786.9	1,503.3	4,239.5	4,169.5	53.827		
8,300.0	7,814.6	6,667.0	5,747.5	43.5	56.0	132.33	2,826.9	1,526.0	4,283.5	4,213.5	54.006		
8,400.0	7,914.6	6,750.3	5,817.1	43.6	56.8	132.48	2,866.9	1,548.7	4,327.5	4,257.5	54.185		
8,500.0	8,014.6	6,833.6	5,886.7	43.6	57.6	132.64	2,906.9	1,571.4	4,371.5	4,301.5	54.364		
8,600.0	8,114.6	6,917.0	5,956.3	43.6	58.4	132.79	2,946.9	1,594.1	4,415.5	4,345.5	54.543		
8,700.0	8,214.6	7,000.3	6,025.9	43.6	59.2	132.95	2,986.9	1,616.8	4,459.5	4,389.5	54.722		
8,800.0	8,314.6	7,083.6	6,095.5	43.7	60.0	133.10	3,026.9	1,639.5	4,503.5	4,433.5	54.901		
8,900.0	8,414.6	7,167.0	6,165.1	43.7	60.8	133.26	3,066.9	1,662.2	4,547.5	4,477.5	55.080		
9,000.0	8,514.6	7,250.3	6,234.7	43.7	61.6	133.41	3,106.9	1,684.9	4,591.5	4,521.5	55.259		
9,100.0	8,614.6	7,333.6	6,304.3	43.8	62.4	133.57	3,146.9	1,707.6	4,635.5	4,565.5	55.438		
9,127.4	8,642.0	7,361.0	6,331.7	43.8	62.6	133.62	3,166.9	1,717.6	4,655.5	4,575.5	55.469		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-46.69	38.4	-40.7	56.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.69	38.4	-40.7	56.0	55.2	70.704		
200.0	200.0	200.0	200.0	1.2	1.2	-46.69	38.4	-40.7	56.0	53.5	22.668	CC	
300.0	300.0	299.6	299.5	1.7	2.4	-44.52	40.2	-39.5	56.4	52.9	16.077	ES	
400.0	400.0	398.7	398.5	2.1	3.9	-38.25	45.5	-35.9	58.0	53.5	12.949		
500.0	500.0	497.2	496.4	2.5	5.0	-28.83	54.3	-29.9	62.1	56.4	11.018		
600.0	600.0	594.3	592.4	3.1	5.9	73.40	66.3	-21.6	69.6	62.4	9.735		
700.0	699.7	689.2	685.5	4.4	6.8	87.27	81.3	-11.4	82.6	73.9	9.438	SF	
800.0	799.1	781.2	775.0	5.4	7.5	99.72	98.9	0.7	103.8	93.5	10.067		
900.0	898.0	870.0	860.5	5.7	8.1	101.02	118.7	14.2	132.7	121.1	11.356		
1,000.0	996.3	956.0	942.3	6.2	8.7	101.01	140.4	29.0	167.0	153.9	12.739		
1,100.0	1,093.8	1,038.9	1,020.3	6.9	9.3	101.45	163.7	45.0	206.0	191.7	14.459		
1,200.0	1,190.4	1,118.6	1,094.2	7.6	9.8	101.95	188.3	61.8	249.4	234.3	16.487		
1,300.0	1,285.8	1,200.0	1,168.6	8.2	10.3	102.60	215.6	80.5	297.0	281.0	18.562		
1,400.0	1,380.0	1,268.4	1,230.1	8.9	10.7	102.57	240.2	97.4	348.3	331.6	20.963		
1,500.0	1,472.6	1,338.3	1,292.1	9.5	11.1	102.61	267.0	115.6	403.1	385.8	23.261		
1,600.0	1,563.5	1,406.0	1,351.1	10.1	11.5	102.49	294.3	134.4	461.3	443.2	25.520		
1,700.0	1,653.0	1,481.6	1,416.5	10.4	11.8	104.47	325.6	155.8	521.5	502.7	27.725		
1,800.0	1,742.4	1,558.3	1,482.8	10.7	12.1	106.97	357.4	177.6	582.6	563.0	29.773		
1,900.0	1,831.7	1,635.0	1,549.2	11.1	12.3	109.02	389.2	199.3	644.3	623.9	31.666		
2,000.0	1,921.1	1,711.7	1,615.5	11.5	12.6	110.72	421.0	221.1	706.4	685.2	33.388		
2,100.0	2,010.5	1,788.4	1,681.8	11.9	12.9	112.15	452.8	242.8	768.8	746.8	34.948		
2,200.0	2,099.9	1,865.2	1,748.1	12.3	13.1	113.38	484.6	264.6	831.5	808.7	36.359		
2,300.0	2,189.2	1,941.9	1,814.5	12.8	13.4	114.44	516.4	286.4	894.4	870.7	37.635		
2,400.0	2,278.6	2,018.6	1,880.8	13.4	13.7	115.36	548.2	308.1	957.5	932.8	38.789		
2,500.0	2,368.0	2,095.3	1,947.1	14.0	14.0	116.17	580.0	329.9	1,020.7	995.1	39.832		
2,600.0	2,457.4	2,172.0	2,013.5	14.7	14.3	116.89	611.8	351.6	1,084.1	1,057.5	40.778		
2,700.0	2,546.8	2,248.7	2,079.8	15.5	14.6	117.53	643.6	373.4	1,147.5	1,119.9	41.638		
2,800.0	2,636.1	2,325.4	2,146.1	16.2	14.9	118.10	675.4	395.2	1,211.0	1,182.4	42.422		
2,900.0	2,725.5	2,402.1	2,212.5	17.0	15.3	118.62	707.2	416.9	1,274.5	1,245.0	43.123		
3,000.0	2,814.9	2,478.8	2,278.8	17.8	15.7	119.09	739.0	438.7	1,338.1	1,307.5	43.745		
3,100.0	2,904.3	2,555.5	2,345.1	18.7	16.4	119.51	770.8	460.4	1,401.8	1,370.2	44.354		
3,200.0	2,993.7	2,632.3	2,411.5	19.5	17.1	119.90	802.6	482.2	1,465.5	1,432.9	44.898		
3,300.0	3,083.0	2,709.0	2,477.8	20.3	17.7	120.26	834.4	504.0	1,529.2	1,495.6	45.398		
3,400.0	3,172.4	2,785.7	2,544.1	21.1	18.4	120.59	866.2	525.7	1,593.0	1,558.3	45.854		
3,500.0	3,261.8	2,862.4	2,610.5	22.0	19.0	120.89	898.0	547.5	1,656.8	1,621.0	46.274		
3,600.0	3,351.2	2,939.1	2,676.8	22.8	19.7	121.18	929.8	569.2	1,720.7	1,683.8	46.663		
3,700.0	3,440.5	3,015.8	2,743.1	23.6	20.4	121.44	961.6	591.0	1,784.5	1,746.6	47.023		
3,800.0	3,529.9	3,092.5	2,809.5	24.5	21.0	121.68	993.4	612.8	1,848.4	1,809.4	47.357		
3,900.0	3,619.3	3,169.2	2,875.8	25.3	21.7	121.91	1,025.2	634.5	1,912.3	1,872.2	47.665		
4,000.0	3,708.7	3,245.9	2,942.1	26.2	22.4	122.12	1,056.9	656.3	1,976.2	1,935.0	47.953		
4,100.0	3,798.1	3,322.7	3,008.5	27.0	23.0	122.32	1,088.7	678.0	2,040.1	1,997.8	48.221		
4,200.0	3,887.4	3,399.4	3,074.8	27.9	23.7	122.51	1,120.5	699.8	2,104.1	2,060.7	48.471		
4,300.0	3,976.8	3,476.1	3,141.1	28.7	24.4	122.68	1,152.3	721.6	2,168.0	2,123.5	48.704		
4,400.0	4,066.2	3,552.8	3,207.5	29.5	25.0	122.85	1,184.1	743.3	2,232.0	2,186.4	48.922		
4,500.0	4,155.6	3,629.5	3,273.8	30.4	25.7	123.01	1,215.9	765.1	2,296.0	2,249.2	49.127		
4,600.0	4,244.9	3,706.2	3,340.1	31.2	26.4	123.16	1,247.7	786.8	2,359.9	2,312.1	49.319		
4,700.0	4,334.3	3,782.9	3,406.5	32.1	27.0	123.30	1,279.5	808.6	2,423.9	2,375.0	49.499		
4,800.0	4,423.7	3,859.6	3,472.8	32.9	27.7	123.43	1,311.3	830.4	2,487.9	2,437.8	49.669		
4,900.0	4,513.1	3,936.3	3,539.1	33.8	28.4	123.56	1,343.1	852.1	2,551.9	2,500.7	49.829		
5,000.0	4,602.5	4,013.0	3,605.4	34.6	29.0	123.68	1,374.9	873.9	2,616.0	2,563.6	49.980		
5,100.0	4,691.8	4,089.8	3,671.8	35.5	29.7	123.79	1,406.7	895.6	2,680.0	2,626.5	50.122		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
5,200.0	4,781.2	4,166.5	3,738.1	36.3	30.4	123.90	1,438.5	917.4	2,744.0	2,689.4	50.256	
5,300.0	4,870.6	4,243.2	3,804.4	37.2	31.0	124.01	1,470.3	939.2	2,808.0	2,752.3	50.384	
5,400.0	4,960.0	4,319.9	3,870.8	38.1	31.7	124.11	1,502.1	960.9	2,872.1	2,815.2	50.504	
5,500.0	5,049.4	4,396.7	3,937.2	38.9	32.4	124.72	1,533.9	982.7	2,936.0	2,878.0	50.624	
5,600.0	5,140.3	4,474.7	4,004.7	39.7	33.1	126.37	1,566.3	1,004.8	2,998.5	2,939.4	50.717	
5,700.0	5,233.0	4,554.3	4,073.5	40.4	33.8	127.82	1,599.3	1,027.4	3,059.0	2,998.7	50.779	
5,800.0	5,327.1	4,635.3	4,143.6	41.0	34.5	129.08	1,632.9	1,050.4	3,117.3	3,055.9	50.827	
5,900.0	5,422.7	4,717.6	4,214.7	41.5	35.2	130.18	1,666.9	1,073.7	3,173.3	3,110.9	50.862	
6,000.0	5,519.4	4,800.9	4,286.7	42.0	35.9	131.12	1,701.5	1,097.4	3,227.1	3,163.7	50.886	
6,100.0	5,617.2	4,885.2	4,359.6	42.3	36.7	131.92	1,736.4	1,121.3	3,278.5	3,214.1	50.902	
6,200.0	5,715.8	4,970.2	4,433.1	42.6	37.4	132.58	1,771.7	1,145.4	3,327.4	3,262.1	50.911	
6,300.0	5,815.0	5,055.9	4,507.2	42.8	38.1	133.13	1,807.2	1,169.7	3,373.9	3,307.7	50.916	
6,400.0	5,914.7	5,141.9	4,581.6	43.0	38.9	133.56	1,842.8	1,194.1	3,417.9	3,350.8	50.921	
6,500.0	6,014.6	5,228.3	4,656.3	43.1	39.7	133.88	1,878.6	1,218.6	3,459.4	3,391.5	50.934	
6,600.0	6,114.6	5,314.8	4,731.0	43.1	40.4	76.56	1,914.5	1,243.1	3,499.0	3,430.4	51.036	
6,700.0	6,214.6	5,401.2	4,805.8	43.1	41.2	76.04	1,950.3	1,267.7	3,538.7	3,469.5	51.143	
6,800.0	6,314.6	6,989.0	6,314.6	43.1	48.1	71.76	2,280.0	1,493.3	3,554.6	3,473.8	43.969	
6,900.0	6,414.6	7,089.0	6,414.6	43.1	48.1	71.76	2,280.0	1,493.3	3,554.6	3,473.7	43.945	
7,000.0	6,514.6	7,189.0	6,514.6	43.2	48.1	71.76	2,280.0	1,493.3	3,554.6	3,473.7	43.921	
7,100.0	6,614.6	7,289.0	6,614.6	43.2	48.2	71.76	2,280.0	1,493.3	3,554.6	3,473.6	43.897	
7,200.0	6,714.6	7,389.0	6,714.6	43.2	48.2	71.76	2,280.0	1,493.3	3,554.6	3,473.6	43.872	
7,300.0	6,814.6	7,489.0	6,814.6	43.3	48.2	71.76	2,280.0	1,493.3	3,554.6	3,473.6	43.848	
7,400.0	6,914.6	7,589.0	6,914.6	43.3	48.2	71.76	2,280.0	1,493.3	3,554.6	3,473.5	43.823	
7,500.0	7,014.6	7,689.0	7,014.6	43.3	48.2	71.76	2,280.0	1,493.3	3,554.6	3,473.5	43.798	
7,600.0	7,114.6	7,789.0	7,114.6	43.3	48.3	71.76	2,280.0	1,493.3	3,554.6	3,473.4	43.773	
7,700.0	7,214.6	7,889.0	7,214.6	43.4	48.3	71.76	2,280.0	1,493.3	3,554.6	3,473.4	43.748	
7,800.0	7,314.6	7,989.0	7,314.6	43.4	48.3	71.76	2,280.0	1,493.3	3,554.6	3,473.3	43.723	
7,900.0	7,414.6	8,089.0	7,414.6	43.4	48.3	71.76	2,280.0	1,493.3	3,554.6	3,473.3	43.698	
8,000.0	7,514.6	8,189.0	7,514.6	43.4	48.3	71.76	2,280.0	1,493.3	3,554.6	3,473.2	43.672	
8,100.0	7,614.6	8,289.0	7,614.6	43.5	48.4	71.76	2,280.0	1,493.3	3,554.6	3,473.2	43.647	
8,200.0	7,714.6	8,389.0	7,714.6	43.5	48.4	71.76	2,280.0	1,493.3	3,554.6	3,473.1	43.621	
8,300.0	7,814.6	8,489.0	7,814.6	43.5	48.4	71.76	2,280.0	1,493.3	3,554.6	3,473.1	43.595	
8,303.3	7,817.9	8,492.3	7,817.9	43.5	48.4	71.76	2,280.0	1,493.3	3,554.6	3,473.1	43.594	
8,400.0	7,914.6	8,560.4	7,886.0	43.6	48.4	71.76	2,280.0	1,493.3	3,554.7	3,473.1	43.559	
8,500.0	8,014.6	8,560.4	7,886.0	43.6	48.4	71.76	2,280.0	1,493.3	3,557.0	3,475.2	43.528	
8,600.0	8,114.6	8,560.4	7,886.0	43.6	48.4	71.76	2,280.0	1,493.3	3,562.0	3,480.2	43.559	
8,700.0	8,214.6	8,560.4	7,886.0	43.6	48.4	71.76	2,280.0	1,493.3	3,569.8	3,488.0	43.649	
8,800.0	8,314.6	8,560.4	7,886.0	43.7	48.4	71.76	2,280.0	1,493.3	3,580.4	3,498.6	43.799	
8,900.0	8,414.6	8,560.4	7,886.0	43.7	48.4	71.76	2,280.0	1,493.3	3,593.7	3,512.0	44.008	
9,000.0	8,514.6	8,560.4	7,886.0	43.7	48.4	71.76	2,280.0	1,493.3	3,609.8	3,528.2	44.275	
9,100.0	8,614.6	8,560.4	7,886.0	43.8	48.4	71.76	2,280.0	1,493.3	3,628.5	3,547.2	44.599	
9,127.4	8,642.0	8,560.4	7,886.0	43.8	48.4	71.76	2,280.0	1,493.3	3,634.1	3,552.8	44.700	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-46.88	27.3	-29.2	40.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.88	27.3	-29.2	40.0	39.2	50.449		
200.0	200.0	200.0	200.0	1.2	1.2	-46.88	27.3	-29.2	40.0	37.5	16.174		
291.0	291.0	291.0	291.0	1.7	2.2	-44.29	28.6	-27.9	39.9	36.5	11.797	CC	
300.0	300.0	300.0	300.0	1.7	2.3	-43.75	28.8	-27.6	39.9	36.5	11.559		
400.0	400.0	399.7	399.4	2.1	3.9	-34.50	33.4	-22.9	40.5	36.2	9.369	ES	
500.0	500.0	498.5	497.7	2.5	5.0	-20.48	40.9	-15.3	43.7	38.2	7.923		
600.0	600.0	596.0	594.1	3.1	6.0	86.86	51.1	-4.7	51.5	44.3	7.144	SF	
700.0	699.7	691.1	687.4	4.4	6.8	104.00	63.9	8.4	67.3	58.2	7.399		
800.0	799.1	783.1	776.8	5.4	7.5	116.88	78.8	23.6	92.6	81.7	8.462		
900.0	898.0	871.5	861.9	5.7	8.1	117.12	95.5	40.7	126.1	113.8	10.252		
1,000.0	996.3	956.6	942.9	6.2	8.7	115.88	113.7	59.4	164.8	151.2	12.119		
1,100.0	1,093.8	1,038.2	1,019.6	6.9	9.3	115.19	133.1	79.3	208.5	193.8	14.205		
1,200.0	1,190.4	1,116.2	1,091.9	7.6	9.8	114.72	153.5	100.2	256.8	241.2	16.519		
1,300.0	1,285.8	1,190.4	1,159.9	8.2	10.2	114.28	174.4	121.7	309.3	293.0	18.975		
1,400.0	1,380.0	1,260.9	1,223.4	8.9	10.6	113.78	195.7	143.5	365.8	348.8	21.509		
1,500.0	1,472.6	1,327.5	1,282.6	9.5	11.0	113.17	217.1	165.4	425.9	408.3	24.095		
1,600.0	1,563.5	1,390.5	1,337.7	10.1	11.4	112.42	238.4	187.3	489.5	471.2	26.711		
1,700.0	1,653.0	1,452.9	1,391.5	10.4	11.6	113.64	260.5	209.9	556.1	537.3	29.583		
1,800.0	1,742.4	1,524.5	1,452.9	10.7	11.9	115.84	286.2	236.3	623.8	604.4	32.079		
1,900.0	1,831.7	1,596.1	1,514.3	11.1	12.1	117.62	311.9	262.6	692.0	671.9	34.368		
2,000.0	1,921.1	1,667.7	1,575.7	11.5	12.3	119.09	337.5	288.9	760.4	739.6	36.457		
2,100.0	2,010.5	1,739.2	1,637.1	11.9	12.6	120.33	363.2	315.3	829.1	807.5	38.367		
2,200.0	2,099.9	1,810.8	1,698.5	12.3	12.8	121.38	388.9	341.6	898.0	875.6	40.112		
2,300.0	2,189.2	1,882.4	1,759.9	12.8	13.1	122.28	414.6	367.9	967.0	943.8	41.700		
2,400.0	2,278.6	1,953.9	1,821.3	13.4	13.3	123.07	440.3	394.2	1,036.1	1,012.1	43.148		
2,500.0	2,368.0	2,025.5	1,882.7	14.0	13.6	123.76	465.9	420.6	1,105.3	1,080.5	44.469		
2,600.0	2,457.4	2,097.1	1,944.1	14.7	13.9	124.37	491.6	446.9	1,174.6	1,148.9	45.673		
2,700.0	2,546.8	2,168.7	2,005.5	15.5	14.2	124.91	517.3	473.2	1,243.9	1,217.3	46.775		
2,800.0	2,636.1	2,240.2	2,066.9	16.2	14.4	125.40	543.0	499.6	1,313.3	1,285.9	47.806		
2,900.0	2,725.5	2,311.8	2,128.3	17.0	14.9	125.84	568.6	525.9	1,382.8	1,354.4	48.695		
3,000.0	2,814.9	2,383.4	2,189.7	17.8	15.5	126.24	594.3	552.2	1,452.3	1,422.9	49.540		
3,100.0	2,904.3	2,454.9	2,251.1	18.7	16.1	126.60	620.0	578.5	1,521.8	1,491.5	50.319		
3,200.0	2,993.7	2,526.5	2,312.5	19.5	16.8	126.93	645.7	604.9	1,591.3	1,560.1	51.036		
3,300.0	3,083.0	2,598.1	2,373.9	20.3	17.5	127.23	671.4	631.2	1,660.9	1,628.7	51.698		
3,400.0	3,172.4	2,669.7	2,435.3	21.1	18.1	127.51	697.0	657.5	1,730.5	1,697.4	52.305		
3,500.0	3,261.8	2,741.2	2,496.7	22.0	18.8	127.76	722.7	683.9	1,800.1	1,766.0	52.868		
3,600.0	3,351.2	2,812.8	2,558.1	22.8	19.4	128.00	748.4	710.2	1,869.7	1,834.7	53.391		
3,700.0	3,440.5	2,884.4	2,619.5	23.6	20.1	128.22	774.1	736.5	1,939.3	1,903.3	53.875		
3,800.0	3,529.9	2,955.9	2,680.9	24.5	20.8	128.43	799.8	762.8	2,009.0	1,972.0	54.324		
3,900.0	3,619.3	3,027.5	2,742.3	25.3	21.4	128.62	825.4	789.2	2,078.7	2,040.7	54.744		
4,000.0	3,708.7	3,099.1	2,803.7	26.2	22.1	128.80	851.1	815.5	2,148.3	2,109.4	55.135		
4,100.0	3,798.1	3,170.6	2,865.1	27.0	22.7	128.96	876.8	841.8	2,218.0	2,178.1	55.499		
4,200.0	3,887.4	3,242.2	2,926.5	27.9	23.4	129.12	902.5	868.2	2,287.7	2,246.7	55.840		
4,300.0	3,976.8	3,313.8	2,987.9	28.7	24.1	129.27	928.1	894.5	2,357.4	2,315.4	56.160		
4,400.0	4,066.2	3,385.4	3,049.3	29.5	24.7	129.41	953.8	920.8	2,427.1	2,384.1	56.459		
4,500.0	4,155.6	3,456.9	3,110.7	30.4	25.4	129.54	979.5	947.1	2,496.9	2,452.8	56.740		
4,600.0	4,244.9	3,528.5	3,172.1	31.2	26.0	129.67	1,005.2	973.5	2,566.6	2,521.6	57.005		
4,700.0	4,334.3	3,600.1	3,233.5	32.1	26.7	129.79	1,030.9	999.8	2,636.3	2,590.3	57.254		
4,800.0	4,423.7	3,671.6	3,294.9	32.9	27.4	129.90	1,056.5	1,026.1	2,706.1	2,659.0	57.488		
4,900.0	4,513.1	3,743.2	3,356.3	33.8	28.0	130.01	1,082.2	1,052.5	2,775.8	2,727.7	57.709		
5,000.0	4,602.5	3,814.8	3,417.7	34.6	28.7	130.11	1,107.9	1,078.8	2,845.5	2,796.4	57.918		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
5,100.0	4,691.8	3,886.4	3,479.1	35.5	29.4	130.20	1,133.6	1,105.1	2,915.3	2,865.1	58.115			
5,200.0	4,781.2	3,957.9	3,540.5	36.3	30.0	130.30	1,159.2	1,131.4	2,985.1	2,933.9	58.301			
5,300.0	4,870.6	4,029.5	3,601.9	37.2	30.7	130.38	1,184.9	1,157.8	3,054.8	3,002.6	58.478			
5,400.0	4,960.0	4,101.1	3,663.3	38.1	31.4	130.47	1,210.6	1,184.1	3,124.6	3,071.3	58.646			
5,500.0	5,049.4	4,172.7	3,724.7	38.9	32.0	131.10	1,236.3	1,210.5	3,194.3	3,139.9	58.810			
5,600.0	5,140.3	4,246.0	3,787.6	39.7	32.7	132.84	1,262.6	1,237.4	3,262.3	3,207.0	58.930			
5,700.0	5,233.0	4,321.1	3,852.0	40.4	33.4	134.37	1,289.6	1,265.1	3,328.2	3,271.8	58.996			
5,800.0	5,327.1	4,398.1	3,918.1	41.0	34.1	135.69	1,317.2	1,293.4	3,391.8	3,334.3	59.034			
5,900.0	5,422.7	4,476.7	3,985.5	41.5	34.9	136.84	1,345.4	1,322.3	3,452.9	3,394.5	59.047			
6,000.0	5,519.4	4,556.8	4,054.3	42.0	35.6	137.83	1,374.1	1,351.8	3,511.6	3,452.1	59.038			
6,100.0	5,617.2	4,638.3	4,124.1	42.3	36.4	138.67	1,403.3	1,381.7	3,567.6	3,507.1	59.010			
6,200.0	5,715.8	4,721.0	4,195.1	42.6	37.1	139.38	1,433.0	1,412.1	3,620.9	3,559.5	58.966			
6,300.0	5,815.0	4,804.7	4,266.9	42.8	37.9	139.96	1,463.0	1,442.9	3,671.6	3,609.3	58.911			
6,400.0	5,914.7	4,889.3	4,339.4	43.0	38.7	140.43	1,493.4	1,474.1	3,719.4	3,656.2	58.851			
6,500.0	6,014.6	4,974.6	4,412.6	43.1	39.5	140.80	1,524.0	1,505.4	3,764.5	3,700.5	58.797			
6,600.0	6,114.6	5,060.3	4,486.2	43.1	40.3	83.54	1,554.8	1,537.0	3,807.4	3,742.7	58.878			
6,700.0	6,214.6	5,146.1	4,559.8	43.1	41.1	83.09	1,585.5	1,568.5	3,850.2	3,784.9	58.966			
6,800.0	6,314.6	5,231.9	4,633.4	43.1	41.9	82.66	1,616.3	1,600.1	3,893.3	3,827.4	59.055			
6,900.0	6,414.6	5,317.6	4,707.0	43.1	42.7	82.23	1,647.1	1,630.9	3,936.4	3,870.5	59.143			
7,000.0	6,514.6	5,403.3	4,780.6	43.2	43.5	81.80	1,678.0	1,662.7	3,979.5	3,913.6	59.231			
7,100.0	6,614.6	5,492.0	4,854.2	43.2	44.3	81.37	1,708.9	1,693.6	4,022.6	3,957.6	59.319			
7,200.0	6,714.6	5,580.7	4,929.1	43.2	45.1	80.94	1,740.0	1,720.5	4,067.7	4,001.7	59.407			
7,300.0	6,814.6	5,669.4	5,004.0	43.3	45.9	80.51	1,771.1	1,751.6	4,112.8	4,046.8	59.495			
7,400.0	6,914.6	5,758.1	5,078.9	43.3	46.7	80.08	1,802.2	1,782.7	4,157.9	4,091.9	59.583			
7,500.0	7,014.6	5,846.8	5,153.8	43.3	47.5	79.65	1,833.3	1,813.8	4,203.0	4,137.0	59.671			
7,600.0	7,114.6	5,935.5	5,228.7	43.3	48.3	79.22	1,864.4	1,844.9	4,248.1	4,182.1	59.759			
7,700.0	7,214.6	6,024.2	5,303.6	43.4	49.1	78.79	1,895.5	1,876.0	4,293.2	4,227.2	59.847			
7,800.0	7,314.6	6,112.9	5,378.5	43.4	49.9	78.36	1,926.6	1,907.1	4,338.3	4,272.3	59.935			
7,900.0	7,414.6	6,201.6	5,453.4	43.4	50.7	77.93	1,957.7	1,938.2	4,383.4	4,317.4	60.023			
8,000.0	7,514.6	6,290.3	5,528.3	43.4	51.5	77.50	1,988.8	1,969.3	4,428.5	4,362.5	60.111			
8,100.0	7,614.6	6,379.0	5,603.2	43.5	52.3	77.07	2,019.9	1,999.4	4,473.6	4,407.6	60.199			
8,200.0	7,714.6	6,467.7	5,678.1	43.5	53.1	76.64	2,051.0	2,030.5	4,518.7	4,452.7	60.287			
8,300.0	7,814.6	6,556.4	5,753.0	43.5	53.9	76.21	2,082.1	2,061.6	4,563.8	4,497.8	60.375			
8,400.0	7,914.6	6,645.1	5,827.9	43.6	54.7	75.78	2,113.2	2,092.7	4,608.9	4,542.9	60.463			
8,500.0	8,014.6	6,733.8	5,902.8	43.6	55.5	75.35	2,144.3	2,123.8	4,654.0	4,588.0	60.551			
8,600.0	8,114.6	6,822.5	5,977.7	43.6	56.3	74.92	2,175.4	2,154.9	4,699.1	4,633.1	60.639			
8,700.0	8,214.6	6,911.2	6,052.6	43.6	57.1	74.49	2,206.5	2,186.0	4,744.2	4,678.2	60.727			
8,800.0	8,314.6	7,000.0	6,127.5	43.7	57.9	74.06	2,237.6	2,217.1	4,789.3	4,723.3	60.815			
8,900.0	8,414.6	7,088.7	6,202.4	43.7	58.7	73.63	2,268.7	2,248.2	4,834.4	4,768.4	60.903			
9,000.0	8,514.6	7,177.4	6,277.3	43.7	59.5	73.20	2,299.8	2,279.3	4,879.5	4,813.5	60.991			
9,100.0	8,614.6	7,266.1	6,352.2	43.7	60.3	72.77	2,330.9	2,310.4	4,924.6	4,858.6	61.079			
9,127.4	8,642.0	9,350.1	8,642.0	43.8	51.4	78.20	1,970.9	1,963.6	3,929.3	3,848.3	48.486			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-46.98	16.4	-17.6	24.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.98	16.4	-17.6	24.0	23.2	30.318		
200.0	200.0	200.0	200.0	1.2	1.2	-46.98	16.4	-17.6	24.0	21.5	9.720		
300.0	300.0	300.1	300.1	1.7	1.7	-44.05	17.2	-16.6	23.9	20.6	7.357		
345.0	345.0	345.1	345.0	1.9	2.4	-39.45	18.4	-15.1	23.8	20.2	6.516	CC	
400.0	400.0	399.9	399.7	2.1	3.3	-31.03	20.6	-12.4	24.1	20.0	5.890	ES	
500.0	500.0	499.1	498.4	2.5	4.6	-10.41	26.8	-4.9	27.3	21.8	5.009		
600.0	600.0	596.9	595.3	3.1	5.6	102.17	35.5	5.7	36.7	29.3	4.970	SF	
700.0	699.7	692.4	689.2	4.4	6.4	119.94	46.6	19.1	55.3	45.8	5.850		
800.0	799.1	784.8	779.2	5.4	7.2	130.83	59.6	35.0	83.2	71.9	7.362		
900.0	898.0	873.5	864.9	5.7	7.8	128.91	74.3	52.8	118.7	106.2	9.518		
1,000.0	996.3	958.9	946.4	6.2	8.4	126.08	90.4	72.4	159.2	145.6	11.659		
1,100.0	1,093.8	1,040.6	1,023.5	6.9	9.0	124.25	107.6	93.3	204.6	189.9	13.925		
1,200.0	1,190.4	1,118.4	1,096.0	7.6	9.5	122.92	125.6	115.2	254.5	238.9	16.363		
1,300.0	1,285.8	1,192.4	1,163.9	8.2	10.0	121.83	144.2	137.8	308.7	292.4	18.922		
1,400.0	1,380.0	1,262.4	1,227.3	8.9	10.4	120.81	163.0	160.7	367.0	350.0	21.556		
1,500.0	1,472.6	1,328.3	1,286.2	9.5	10.8	119.77	181.9	183.6	429.0	411.4	24.322		
1,600.0	1,563.5	1,394.9	1,344.8	10.1	11.0	118.82	201.9	207.9	494.4	476.2	27.160		
1,700.0	1,653.0	1,467.0	1,408.2	10.4	11.2	120.16	223.8	234.6	561.5	542.7	29.875		
1,800.0	1,742.4	1,539.0	1,471.4	10.7	11.5	122.15	245.7	261.2	629.1	609.7	32.375		
1,900.0	1,831.7	1,611.0	1,534.6	11.1	11.7	123.77	267.6	287.7	697.1	677.0	34.672		
2,000.0	1,921.1	1,683.0	1,597.9	11.5	12.0	125.12	289.5	314.3	765.3	744.5	36.778		
2,100.0	2,010.5	1,755.0	1,661.1	11.9	12.2	126.24	311.4	340.9	833.7	812.2	38.707		
2,200.0	2,099.9	1,827.0	1,724.3	12.3	12.5	127.20	333.2	367.5	902.3	880.0	40.473		
2,300.0	2,189.2	1,899.0	1,787.6	12.8	12.7	128.03	355.1	394.1	971.0	947.9	42.088		
2,400.0	2,278.6	1,971.0	1,850.8	13.4	13.0	128.75	377.0	420.7	1,039.8	1,015.9	43.561		
2,500.0	2,368.0	2,043.0	1,914.1	14.0	13.3	129.38	398.9	447.3	1,108.6	1,083.9	44.910		
2,600.0	2,457.4	2,115.0	1,977.3	14.7	13.6	129.94	420.7	473.9	1,177.6	1,152.0	46.145		
2,700.0	2,546.8	2,187.0	2,040.5	15.5	13.9	130.43	442.6	500.4	1,246.5	1,220.2	47.276		
2,800.0	2,636.1	2,259.0	2,103.8	16.2	14.2	130.88	464.5	527.0	1,315.5	1,288.3	48.314		
2,900.0	2,725.5	2,331.0	2,167.0	17.0	14.5	131.28	486.4	553.6	1,384.6	1,356.5	49.274		
3,000.0	2,814.9	2,403.0	2,230.2	17.8	15.0	131.65	508.2	580.2	1,453.7	1,424.7	50.143		
3,100.0	2,904.3	2,475.0	2,293.5	18.7	15.6	131.98	530.1	606.8	1,522.8	1,492.9	50.948		
3,200.0	2,993.7	2,547.0	2,356.7	19.5	16.2	132.28	552.0	633.4	1,591.9	1,561.1	51.695		
3,300.0	3,083.0	2,619.0	2,419.9	20.3	16.8	132.56	573.9	660.0	1,661.1	1,629.4	52.385		
3,400.0	3,172.4	2,691.0	2,483.2	21.1	17.4	132.81	595.8	686.5	1,730.3	1,697.7	53.024		
3,500.0	3,261.8	2,763.0	2,546.4	22.0	18.0	133.05	617.6	713.1	1,799.5	1,765.9	53.615		
3,600.0	3,351.2	2,835.0	2,609.6	22.8	18.7	133.26	639.5	739.7	1,868.7	1,834.2	54.165		
3,700.0	3,440.5	2,907.0	2,672.9	23.6	19.3	133.47	661.4	766.3	1,937.9	1,902.5	54.677		
3,800.0	3,529.9	2,979.0	2,736.1	24.5	19.9	133.66	683.3	792.9	2,007.2	1,970.8	55.153		
3,900.0	3,619.3	3,051.0	2,799.4	25.3	20.5	133.83	705.1	819.5	2,076.4	2,039.1	55.597		
4,000.0	3,708.7	3,123.0	2,862.6	26.2	21.1	134.00	727.0	846.1	2,145.7	2,107.4	56.013		
4,100.0	3,798.1	3,195.1	2,925.8	27.0	21.8	134.15	748.9	872.7	2,214.9	2,175.7	56.402		
4,200.0	3,887.4	3,267.1	2,989.1	27.9	22.4	134.30	770.8	899.2	2,284.2	2,244.0	56.765		
4,300.0	3,976.8	3,339.1	3,052.3	28.7	23.0	134.43	792.6	925.8	2,353.5	2,312.3	57.107		
4,400.0	4,066.2	3,411.1	3,115.5	29.5	23.6	134.56	814.5	952.4	2,422.8	2,380.6	57.428		
4,500.0	4,155.6	3,483.1	3,178.8	30.4	24.3	134.69	836.4	979.0	2,492.1	2,448.9	57.730		
4,600.0	4,244.9	3,555.1	3,242.0	31.2	24.9	134.80	858.3	1,005.6	2,561.4	2,517.2	58.014		
4,700.0	4,334.3	3,627.1	3,305.2	32.1	25.5	134.91	880.1	1,032.2	2,630.7	2,585.5	58.282		
4,800.0	4,423.7	3,699.1	3,368.5	32.9	26.1	135.01	902.0	1,058.8	2,700.0	2,653.8	58.535		
4,900.0	4,513.1	3,771.1	3,431.7	33.8	26.8	135.11	923.9	1,085.3	2,769.3	2,722.2	58.773		
5,000.0	4,602.5	3,843.1	3,494.9	34.6	27.4	135.21	945.8	1,111.9	2,838.6	2,790.5	58.999		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
5,100.0	4,691.8	3,915.1	3,558.2	35.5	28.0	135.30	967.7	1,138.5	2,907.9	2,858.8	59.213	
5,200.0	4,781.2	3,987.1	3,621.4	36.3	28.6	135.38	989.5	1,165.1	2,977.2	2,927.1	59.415	
5,300.0	4,870.6	4,059.1	3,684.7	37.2	29.3	135.46	1,011.4	1,191.7	3,046.6	2,995.5	59.607	
5,400.0	4,960.0	4,131.1	3,747.9	38.1	29.9	135.54	1,033.3	1,218.3	3,115.9	3,063.8	59.790	
5,500.0	5,049.4	4,203.2	3,811.2	38.9	30.5	136.12	1,055.2	1,244.9	3,185.1	3,132.0	59.969	
5,600.0	5,140.3	4,277.0	3,876.0	39.7	31.1	137.69	1,077.6	1,272.1	3,252.6	3,198.5	60.089	
5,700.0	5,233.0	4,352.9	3,942.7	40.4	31.8	139.06	1,100.7	1,300.2	3,317.7	3,262.5	60.138	
5,800.0	5,327.1	4,430.7	4,011.0	41.0	32.5	140.24	1,124.3	1,328.9	3,380.2	3,324.0	60.148	
5,900.0	5,422.7	4,510.4	4,081.0	41.5	33.2	141.25	1,148.5	1,358.3	3,440.1	3,382.9	60.124	
6,000.0	5,519.4	4,591.7	4,152.4	42.0	33.9	142.11	1,173.2	1,388.4	3,497.3	3,439.0	60.070	
6,100.0	5,617.2	4,674.5	4,225.1	42.3	34.6	142.84	1,198.4	1,418.9	3,551.6	3,492.4	59.988	
6,200.0	5,715.8	4,758.6	4,299.0	42.6	35.3	143.44	1,224.0	1,450.0	3,603.1	3,542.9	59.884	
6,300.0	5,815.0	4,844.0	4,374.0	42.8	36.1	143.93	1,249.9	1,481.5	3,651.6	3,590.5	59.762	
6,400.0	5,914.7	4,930.3	4,449.8	43.0	36.8	144.31	1,276.1	1,513.4	3,697.1	3,635.1	59.630	
6,500.0	6,014.6	5,017.5	4,526.4	43.1	37.6	144.59	1,302.6	1,545.6	3,739.6	3,676.7	59.502	
6,600.0	6,114.6	5,105.3	4,603.5	43.1	38.4	87.32	1,329.3	1,578.0	3,779.7	3,716.2	59.532	
6,700.0	6,214.6	5,193.2	4,680.7	43.1	39.1	86.91	1,356.0	1,610.5	3,819.8	3,755.6	59.572	
6,800.0	6,314.6	5,281.0	4,757.8	43.1	39.9	86.51	1,382.7	1,642.9	3,860.0	3,795.2	59.614	
6,900.0	6,414.6	5,368.8	4,834.9	43.1	40.7	86.11	1,409.4	1,675.3	3,900.2	3,834.8	59.656	
7,000.0	6,514.6	5,456.7	4,912.0	43.2	41.5	85.71	1,436.1	1,707.7	3,940.4	3,874.4	59.698	
7,100.0	6,614.6	5,544.6	4,989.1	43.2	42.3	85.31	1,462.8	1,740.1	3,980.6	3,914.0	59.740	
7,200.0	6,714.6	5,632.5	5,066.2	43.2	43.1	84.91	1,489.5	1,772.5	4,020.8	3,953.6	59.782	
7,300.0	6,814.6	5,720.4	5,143.3	43.3	43.9	84.51	1,516.2	1,804.9	4,061.0	3,993.2	59.824	
7,400.0	6,914.6	5,808.3	5,220.4	43.3	44.7	84.11	1,542.9	1,837.3	4,101.2	4,032.8	59.866	
7,500.0	7,014.6	5,896.2	5,297.5	43.3	45.5	83.71	1,569.6	1,869.7	4,141.4	4,072.4	59.908	
7,600.0	7,114.6	5,984.1	5,374.6	43.3	46.3	83.31	1,596.3	1,902.1	4,181.6	4,112.0	59.950	
7,700.0	7,214.6	6,072.0	5,451.7	43.4	47.1	82.91	1,623.0	1,934.5	4,221.8	4,151.6	59.992	
7,800.0	7,314.6	6,159.9	5,528.8	43.4	47.9	82.51	1,649.7	1,966.9	4,262.0	4,191.2	60.034	
7,900.0	7,414.6	6,247.8	5,605.9	43.4	48.7	82.11	1,676.4	1,999.3	4,302.2	4,230.8	60.076	
8,000.0	7,514.6	6,335.7	5,683.0	43.4	49.5	81.71	1,703.1	2,031.7	4,342.4	4,270.4	60.118	
8,100.0	7,614.6	6,423.6	5,760.1	43.5	50.3	81.31	1,729.8	2,064.1	4,382.6	4,310.0	60.160	
8,200.0	7,714.6	6,511.5	5,837.2	43.5	51.1	80.91	1,756.5	2,096.5	4,422.8	4,349.6	60.202	
8,300.0	7,814.6	6,599.4	5,914.3	43.5	51.9	80.51	1,783.2	2,128.9	4,463.0	4,389.2	60.244	
8,305.8	7,820.4	6,607.3	5,922.2	43.5	52.0	80.48	1,786.8	2,132.5	4,468.6	4,394.8	60.249	
8,400.0	7,914.6	6,695.3	6,001.3	43.6	52.8	80.08	1,813.5	2,164.9	4,508.8	4,434.4	60.290	
8,500.0	8,014.6	6,783.2	6,080.4	43.6	53.6	79.68	1,840.2	2,197.3	4,549.0	4,474.0	60.332	
8,600.0	8,114.6	6,871.1	6,159.5	43.6	54.4	79.28	1,866.9	2,229.7	4,589.2	4,513.6	60.374	
8,700.0	8,214.6	6,959.0	6,238.6	43.6	55.2	78.88	1,893.6	2,262.1	4,629.4	4,553.2	60.416	
8,800.0	8,314.6	7,046.9	6,317.7	43.7	56.0	78.48	1,920.3	2,294.5	4,669.6	4,592.8	60.458	
8,900.0	8,414.6	7,134.8	6,396.8	43.7	56.8	78.08	1,947.0	2,326.9	4,709.8	4,632.4	60.500	
9,000.0	8,514.6	7,222.7	6,475.9	43.7	57.6	77.68	1,973.7	2,359.3	4,750.0	4,672.0	60.542	
9,100.0	8,614.6	7,310.6	6,555.0	43.8	58.4	77.28	2,000.4	2,391.7	4,790.2	4,711.6	60.584	
9,127.4	8,642.0	7,348.0	6,593.4	43.8	58.8	77.08	2,011.8	2,403.1	4,803.6	4,725.0	60.600	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-46.03	5.5	-5.7	7.9			
100.0	100.0	100.0	100.0	0.4	0.4	-46.03	5.5	-5.7	7.9	7.1	9.927	
200.0	200.0	200.0	200.0	1.2	1.2	-46.03	5.5	-5.7	7.9	5.4	3.183	
300.0	300.0	300.0	300.0	1.7	1.6	-40.33	5.9	-5.0	7.7	4.5	2.412	Level 1
326.6	326.6	326.6	326.6	1.8	1.9	-34.01	6.4	-4.3	7.7	4.2	2.221	Level 1, CC, ES
400.0	400.0	399.9	399.7	2.1	3.0	-6.91	8.6	-1.0	8.6	4.3	2.012	Level 1, SF
500.0	500.0	499.1	498.5	2.5	4.4	25.37	13.6	6.5	15.2	8.8	2.373	Level 1
600.0	600.0	597.0	595.6	3.1	5.4	132.64	21.0	17.3	29.0	20.9	3.574	
700.0	699.7	692.6	689.7	4.4	6.3	142.06	30.4	31.3	51.2	41.1	5.074	
800.0	799.1	785.1	780.0	5.4	7.0	147.16	41.5	47.8	81.5	69.7	6.926	
900.0	898.0	873.9	865.8	5.7	7.7	141.67	54.2	66.5	118.6	105.9	9.331	
1,000.0	996.3	959.1	947.4	6.2	8.3	136.70	68.0	87.1	160.7	146.9	11.654	
1,100.0	1,093.8	1,040.5	1,024.4	6.9	8.9	133.46	82.9	109.1	207.6	192.8	14.038	
1,200.0	1,190.4	1,118.0	1,096.6	7.6	9.4	131.16	98.4	132.0	259.2	243.5	16.560	
1,300.0	1,285.8	1,191.2	1,164.2	8.2	9.9	129.36	114.3	155.7	315.1	298.7	19.192	
1,400.0	1,380.0	1,260.3	1,227.0	8.9	10.3	127.79	130.4	179.5	375.2	358.1	21.973	
1,500.0	1,472.6	1,331.9	1,291.3	9.5	10.5	126.54	148.0	205.6	438.8	421.1	24.789	
1,600.0	1,563.5	1,406.0	1,357.7	10.1	10.8	125.61	166.3	232.7	504.3	486.0	27.479	
1,700.0	1,653.0	1,478.5	1,422.8	10.4	11.0	126.73	184.2	259.3	571.3	552.4	30.175	
1,800.0	1,742.4	1,551.0	1,487.8	10.7	11.2	128.52	202.1	285.8	638.7	619.2	32.670	
1,900.0	1,831.7	1,623.4	1,552.8	11.1	11.5	129.98	220.0	312.3	706.5	686.3	34.973	
2,000.0	1,921.1	1,695.9	1,617.8	11.5	11.7	131.20	237.8	338.8	774.4	753.6	37.095	
2,100.0	2,010.5	1,768.3	1,682.8	11.9	12.0	132.22	255.7	365.3	842.5	821.0	39.040	
2,200.0	2,099.9	1,840.7	1,747.8	12.3	12.3	133.09	273.6	391.8	910.8	888.5	40.828	
2,300.0	2,189.2	1,913.2	1,812.8	12.8	12.5	133.84	291.5	418.3	979.1	956.1	42.471	
2,400.0	2,278.6	1,985.6	1,877.8	13.4	12.8	134.50	309.4	444.8	1,047.5	1,023.7	43.976	
2,500.0	2,368.0	2,058.1	1,942.8	14.0	13.1	135.07	327.3	471.3	1,116.0	1,091.4	45.357	
2,600.0	2,457.4	2,130.5	2,007.8	14.7	13.4	135.58	345.2	497.9	1,184.5	1,159.1	46.627	
2,700.0	2,546.8	2,202.9	2,072.8	15.5	13.7	136.04	363.0	524.4	1,253.1	1,226.9	47.796	
2,800.0	2,636.1	2,275.4	2,137.8	16.2	14.0	136.44	380.9	550.9	1,321.7	1,294.7	48.870	
2,900.0	2,725.5	2,347.8	2,202.8	17.0	14.3	136.81	398.8	577.4	1,390.4	1,362.5	49.861	
3,000.0	2,814.9	2,420.2	2,267.8	17.8	14.6	137.14	416.7	603.9	1,459.1	1,430.3	50.776	
3,100.0	2,904.3	2,492.7	2,332.8	18.7	15.0	137.45	434.6	630.4	1,527.8	1,498.2	51.623	
3,200.0	2,993.7	2,565.1	2,397.8	19.5	15.5	137.73	452.5	656.9	1,596.5	1,566.0	52.408	
3,300.0	3,083.0	2,637.6	2,462.8	20.3	16.1	137.98	470.3	683.4	1,665.2	1,633.9	53.132	
3,400.0	3,172.4	2,710.0	2,527.8	21.1	16.7	138.21	488.2	709.9	1,734.0	1,701.7	53.806	
3,500.0	3,261.8	2,782.4	2,592.8	22.0	17.3	138.43	506.1	736.4	1,802.7	1,769.6	54.433	
3,600.0	3,351.2	2,854.9	2,657.8	22.8	17.8	138.63	524.0	762.9	1,871.5	1,837.5	55.016	
3,700.0	3,440.5	2,927.3	2,722.8	23.6	18.4	138.82	541.9	789.5	1,940.3	1,905.4	55.561	
3,800.0	3,529.9	2,999.7	2,787.8	24.5	19.0	138.99	559.8	816.0	2,009.1	1,973.3	56.070	
3,900.0	3,619.3	3,072.2	2,852.8	25.3	19.6	139.16	577.7	842.5	2,077.9	2,041.2	56.546	
4,000.0	3,708.7	3,144.6	2,917.8	26.2	20.2	139.31	595.5	869.0	2,146.7	2,109.1	56.991	
4,100.0	3,798.1	3,217.1	2,982.8	27.0	20.7	139.45	613.4	895.5	2,215.6	2,177.0	57.409	
4,200.0	3,887.4	3,289.5	3,047.8	27.9	21.3	139.58	631.3	922.0	2,284.4	2,244.9	57.801	
4,300.0	3,976.8	3,361.9	3,112.8	28.7	21.9	139.71	649.2	948.5	2,353.2	2,312.8	58.170	
4,400.0	4,066.2	3,434.4	3,177.8	29.5	22.5	139.83	667.1	975.0	2,422.1	2,380.7	58.517	
4,500.0	4,155.6	3,506.8	3,242.8	30.4	23.1	139.94	685.0	1,001.5	2,490.9	2,448.6	58.844	
4,600.0	4,244.9	3,579.2	3,307.7	31.2	23.6	140.05	702.8	1,028.0	2,559.8	2,516.5	59.152	
4,700.0	4,334.3	3,651.7	3,372.7	32.1	24.2	140.15	720.7	1,054.6	2,628.7	2,584.4	59.444	
4,800.0	4,423.7	3,724.1	3,437.7	32.9	24.8	140.25	738.6	1,081.1	2,697.5	2,652.4	59.719	
4,900.0	4,513.1	3,796.6	3,502.7	33.8	25.4	140.34	756.5	1,107.6	2,766.4	2,720.3	59.980	
5,000.0	4,602.5	3,869.0	3,567.7	34.6	26.0	140.42	774.4	1,134.1	2,835.3	2,788.2	60.227	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,691.8	3,941.4	3,632.7	35.5	26.6	140.51	792.3	1,160.6	2,904.1	2,856.1	60.461		
5,200.0	4,781.2	4,013.9	3,697.7	36.3	27.1	140.58	810.2	1,187.1	2,973.0	2,924.0	60.683		
5,300.0	4,870.6	4,086.3	3,762.7	37.2	27.7	140.66	828.0	1,213.6	3,041.9	2,991.9	60.894		
5,400.0	4,960.0	4,158.7	3,827.7	38.1	28.3	140.73	845.9	1,240.1	3,110.8	3,059.9	61.094		
5,500.0	5,049.4	4,231.3	3,892.8	38.9	28.9	141.25	863.8	1,266.7	3,179.6	3,127.7	61.291		
5,600.0	5,140.3	4,305.6	3,959.5	39.7	29.5	142.65	882.2	1,293.9	3,246.4	3,193.6	61.414		
5,700.0	5,233.0	4,382.2	4,028.3	40.4	30.1	143.85	901.1	1,321.9	3,310.7	3,256.8	61.446		
5,800.0	5,327.1	4,460.9	4,098.9	41.0	30.7	144.89	920.5	1,350.7	3,372.2	3,317.3	61.430		
5,900.0	5,422.7	4,541.6	4,171.2	41.5	31.4	145.77	940.4	1,380.2	3,430.9	3,375.0	61.370		
6,000.0	5,519.4	4,624.0	4,245.2	42.0	32.1	146.51	960.8	1,410.4	3,486.6	3,429.7	61.269		
6,100.0	5,617.2	4,708.1	4,320.6	42.3	32.7	147.13	981.5	1,441.1	3,539.3	3,481.4	61.135		
6,200.0	5,715.8	4,793.6	4,397.4	42.6	33.4	147.63	1,002.7	1,472.5	3,588.9	3,530.1	60.970		
6,300.0	5,815.0	4,880.5	4,475.4	42.8	34.1	148.03	1,024.1	1,504.3	3,635.4	3,575.6	60.783		
6,400.0	5,914.7	4,968.5	4,554.3	43.0	34.8	148.33	1,045.9	1,536.5	3,678.6	3,617.9	60.580		
6,500.0	6,014.6	5,057.6	4,634.2	43.1	35.6	148.54	1,067.8	1,569.0	3,718.6	3,657.0	60.379		
6,600.0	6,114.6	5,147.2	4,714.7	43.1	36.3	91.27	1,090.0	1,601.9	3,756.0	3,693.8	60.363		
6,700.0	6,214.6	5,237.0	4,795.2	43.1	37.0	90.90	1,112.1	1,634.7	3,793.4	3,730.5	60.359		
6,800.0	6,314.6	5,326.7	4,875.7	43.1	37.7	90.53	1,134.3	1,667.5	3,830.9	3,767.4	60.357		
6,900.0	6,414.6	5,416.6	4,956.2	43.1	38.4	87.59	1,156.5	1,700.3	3,867.4	3,804.4	60.355		
7,000.0	6,514.6	5,506.6	5,036.7	43.1	39.1	87.59	1,178.7	1,732.5	3,903.9	3,841.9	60.353		
7,100.0	6,614.6	5,596.6	5,116.7	43.1	39.8	87.59	1,200.9	1,764.7	3,943.4	3,879.4	60.351		
7,200.0	6,714.6	5,686.6	5,196.7	43.1	40.5	87.59	1,223.1	1,796.9	3,982.9	3,916.9	60.349		
7,300.0	6,814.6	5,776.6	5,276.7	43.1	41.2	87.59	1,245.3	1,829.1	4,022.4	3,954.4	60.347		
7,400.0	6,914.6	5,866.6	5,356.7	43.1	41.9	87.59	1,267.5	1,861.3	4,061.9	3,991.9	60.345		
7,500.0	7,014.6	5,956.6	5,436.7	43.1	42.6	87.59	1,289.7	1,893.5	4,101.4	4,029.4	60.343		
7,600.0	7,114.6	6,046.6	5,516.7	43.1	43.3	87.59	1,311.9	1,925.7	4,140.9	4,066.9	60.341		
7,700.0	7,214.6	6,136.6	5,596.7	43.1	44.0	87.59	1,334.1	1,957.9	4,180.4	4,104.4	60.339		
7,800.0	7,314.6	6,226.6	5,676.7	43.1	44.7	87.59	1,356.3	1,990.1	4,219.9	4,141.9	60.337		
7,900.0	7,414.6	6,316.6	5,756.7	43.1	45.4	87.59	1,378.5	2,022.3	4,259.4	4,179.4	60.335		
8,000.0	7,514.6	6,406.6	5,836.7	43.1	46.1	87.59	1,400.7	2,054.5	4,298.9	4,216.9	60.333		
8,100.0	7,614.6	6,496.6	5,916.7	43.1	46.8	87.59	1,422.9	2,086.7	4,338.4	4,254.4	60.331		
8,200.0	7,714.6	6,586.6	5,996.7	43.1	47.5	87.59	1,445.1	2,118.9	4,377.9	4,291.9	60.329		
8,300.0	7,814.6	6,676.6	6,076.7	43.1	48.2	87.59	1,467.3	2,151.1	4,417.4	4,329.4	60.327		
8,400.0	7,914.6	6,766.6	6,156.7	43.1	48.9	87.59	1,489.5	2,183.3	4,456.9	4,366.9	60.325		
8,500.0	8,014.6	6,856.6	6,236.7	43.1	49.6	87.59	1,511.7	2,215.5	4,496.4	4,404.4	60.323		
8,600.0	8,114.6	6,946.6	6,316.7	43.1	50.3	87.59	1,533.9	2,247.7	4,535.9	4,441.9	60.321		
8,700.0	8,214.6	7,036.6	6,396.7	43.1	51.0	87.59	1,556.1	2,279.9	4,575.4	4,479.4	60.319		
8,800.0	8,314.6	7,126.6	6,476.7	43.1	51.7	87.59	1,578.3	2,312.1	4,614.9	4,516.9	60.317		
8,900.0	8,414.6	7,216.6	6,556.7	43.1	52.4	87.59	1,600.5	2,344.3	4,654.4	4,554.4	60.315		
9,000.0	8,514.6	7,306.6	6,636.7	43.1	53.1	87.59	1,622.7	2,376.5	4,693.9	4,591.9	60.313		
9,100.0	8,614.6	7,396.6	6,716.7	43.1	53.8	87.59	1,644.9	2,408.7	4,733.4	4,629.4	60.311		
9,127.4	8,642.0	9,155.4	8,642.0	43.8	44.6	87.59	1,329.1	1,956.3	3,842.4	3,766.3	50.500		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	132.56	-5.5	5.9	8.1				
100.0	100.0	100.0	100.0	0.4	0.4	132.56	-5.5	5.9	8.1	7.3	10.196		
200.0	200.0	200.0	200.0	1.2	1.2	132.56	-5.5	5.9	8.1	5.6	3.269		
203.7	203.7	203.7	203.7	1.3	1.2	132.56	-5.5	5.9	8.1	5.6	3.238	CC	
300.0	300.0	299.9	299.9	1.7	1.7	124.85	-4.9	7.0	8.6	5.3	2.610	ES	
400.0	400.0	399.5	399.3	2.1	3.3	101.46	-2.4	11.8	12.1	7.2	2.451	Level 1, SF	
500.0	500.0	498.4	497.7	2.5	4.5	84.26	2.1	20.4	20.6	13.9	3.053		
600.0	600.0	595.9	594.3	3.1	5.5	166.36	8.4	32.5	36.1	27.7	4.289		
700.0	699.7	691.0	687.8	4.4	6.4	163.56	16.3	47.8	60.1	49.6	5.723		
800.0	799.1	782.9	777.4	5.4	7.1	162.58	25.7	65.9	91.9	79.8	7.576		
900.0	898.0	870.9	862.3	5.7	7.8	153.70	36.2	86.2	130.6	117.6	10.064		
1,000.0	996.3	955.1	942.8	6.2	8.4	146.68	47.7	108.3	174.6	160.6	12.470		
1,100.0	1,093.8	1,035.3	1,018.6	6.9	9.0	142.12	59.9	131.7	223.6	208.6	14.919		
1,200.0	1,190.4	1,111.3	1,089.4	7.6	9.5	138.89	72.6	156.1	277.3	261.5	17.508		
1,300.0	1,285.8	1,183.0	1,155.3	8.2	9.9	136.41	85.6	181.0	335.6	319.1	20.278		
1,400.0	1,380.0	1,260.3	1,225.9	8.9	10.1	134.63	100.1	209.0	397.2	380.0	23.093		
1,500.0	1,472.6	1,336.6	1,295.5	9.5	10.3	133.27	114.5	236.7	460.7	442.8	25.795		
1,600.0	1,563.5	1,410.9	1,363.4	10.1	10.6	132.16	128.5	263.6	526.2	507.6	28.388		
1,700.0	1,653.0	1,483.6	1,429.7	10.4	10.8	133.07	142.2	289.9	593.3	574.2	31.063		
1,800.0	1,742.4	1,556.1	1,495.9	10.7	11.0	134.68	155.8	316.2	660.9	641.2	33.549		
1,900.0	1,831.7	1,628.7	1,562.2	11.1	11.3	135.99	169.5	342.5	728.7	708.3	35.848		
2,000.0	1,921.1	1,701.2	1,628.4	11.5	11.6	137.09	183.2	368.7	796.6	775.6	37.974		
2,100.0	2,010.5	1,773.7	1,694.6	11.9	11.8	138.02	196.8	395.0	864.7	843.1	39.930		
2,200.0	2,099.9	1,846.3	1,760.8	12.3	12.1	138.82	210.5	421.3	932.9	910.6	41.734		
2,300.0	2,189.2	1,918.8	1,827.0	12.8	12.4	139.51	224.2	447.6	1,001.2	978.2	43.398		
2,400.0	2,278.6	1,991.4	1,893.3	13.4	12.7	140.11	237.8	473.9	1,069.6	1,045.8	44.930		
2,500.0	2,368.0	2,063.9	1,959.5	14.0	13.0	140.64	251.5	500.1	1,138.0	1,113.5	46.341		
2,600.0	2,457.4	2,136.5	2,025.7	14.7	13.3	141.11	265.2	526.4	1,206.5	1,181.2	47.643		
2,700.0	2,546.8	2,209.0	2,091.9	15.5	13.6	141.53	278.8	552.7	1,275.0	1,248.9	48.847		
2,800.0	2,636.1	2,281.5	2,158.1	16.2	13.9	141.91	292.5	579.0	1,343.6	1,316.7	49.957		
2,900.0	2,725.5	2,354.1	2,224.4	17.0	14.2	142.25	306.2	605.2	1,412.1	1,384.4	50.984		
3,000.0	2,814.9	2,426.6	2,290.6	17.8	14.5	142.56	319.8	631.5	1,480.7	1,452.2	51.937		
3,100.0	2,904.3	2,499.2	2,356.8	18.7	14.9	142.84	333.5	657.8	1,549.3	1,520.0	52.822		
3,200.0	2,993.7	2,571.7	2,423.0	19.5	15.2	143.10	347.1	684.1	1,618.0	1,587.8	53.640		
3,300.0	3,083.0	2,644.2	2,489.2	20.3	15.6	143.34	360.8	710.4	1,686.6	1,655.6	54.402		
3,400.0	3,172.4	2,716.8	2,555.5	21.1	16.1	143.56	374.5	736.6	1,755.3	1,723.4	55.118		
3,500.0	3,261.8	2,789.3	2,621.7	22.0	16.7	143.76	388.1	762.9	1,824.0	1,791.3	55.781		
3,600.0	3,351.2	2,861.9	2,687.9	22.8	17.2	143.95	401.8	789.2	1,892.6	1,859.1	56.401		
3,700.0	3,440.5	2,934.4	2,754.1	23.6	17.7	144.12	415.5	815.5	1,961.3	1,926.9	56.980		
3,800.0	3,529.9	3,006.9	2,820.3	24.5	18.3	144.29	429.1	841.8	2,030.1	1,994.8	57.522		
3,900.0	3,619.3	3,079.5	2,886.6	25.3	18.8	144.44	442.8	868.0	2,098.8	2,062.6	58.031		
4,000.0	3,708.7	3,152.0	2,952.8	26.2	19.3	144.58	456.5	894.3	2,167.5	2,130.4	58.508		
4,100.0	3,798.1	3,224.6	3,019.0	27.0	19.9	144.72	470.1	920.6	2,236.2	2,198.3	58.957		
4,200.0	3,887.4	3,297.1	3,085.2	27.9	20.4	144.84	483.8	946.9	2,305.0	2,266.1	59.380		
4,300.0	3,976.8	3,369.7	3,151.4	28.7	21.0	144.96	497.4	973.1	2,373.7	2,334.0	59.778		
4,400.0	4,066.2	3,442.2	3,217.6	29.5	21.5	145.07	511.1	999.4	2,442.4	2,401.8	60.153		
4,500.0	4,155.6	3,514.7	3,283.9	30.4	22.0	145.18	524.8	1,025.7	2,511.2	2,469.7	60.507		
4,600.0	4,244.9	3,587.3	3,350.1	31.2	22.6	145.28	538.4	1,052.0	2,579.9	2,537.5	60.842		
4,700.0	4,334.3	3,659.8	3,416.3	32.1	23.1	145.38	552.1	1,078.3	2,648.7	2,605.4	61.159		
4,800.0	4,423.7	3,732.4	3,482.5	32.9	23.7	145.47	565.8	1,104.5	2,717.5	2,673.2	61.459		
4,900.0	4,513.1	3,804.9	3,548.7	33.8	24.2	145.55	579.4	1,130.8	2,786.2	2,741.1	61.744		
5,000.0	4,602.5	3,877.4	3,615.0	34.6	24.8	145.63	593.1	1,157.1	2,855.0	2,809.0	62.014		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,691.8	3,950.0	3,681.2	35.5	25.3	145.71	606.8	1,183.4	2,923.8	2,876.8	62.270		
5,200.0	4,781.2	4,022.5	3,747.4	36.3	25.8	145.79	620.4	1,209.7	2,992.5	2,944.7	62.514		
5,300.0	4,870.6	4,095.1	3,813.6	37.2	26.4	145.86	634.1	1,235.9	3,061.3	3,012.5	62.746		
5,400.0	4,960.0	4,167.6	3,879.8	38.1	26.9	145.93	647.7	1,262.2	3,130.1	3,080.4	62.966		
5,500.0	5,049.4	4,240.3	3,946.2	38.9	27.5	146.39	661.4	1,288.5	3,198.8	3,148.1	63.182		
5,600.0	5,140.3	4,314.8	4,014.2	39.7	28.0	147.62	675.5	1,315.5	3,265.4	3,213.8	63.309		
5,700.0	5,233.0	4,391.8	4,084.5	40.4	28.6	148.88	690.0	1,343.4	3,329.2	3,276.6	63.326		
5,800.0	5,327.1	4,471.0	4,156.8	41.0	29.2	149.58	704.9	1,372.1	3,390.1	3,336.6	63.284		
5,900.0	5,422.7	4,552.3	4,231.0	41.5	29.8	150.34	720.2	1,401.6	3,448.0	3,393.5	63.188		
6,000.0	5,519.4	4,635.5	4,306.9	42.0	30.4	150.98	735.9	1,431.7	3,502.8	3,447.3	63.044		
6,100.0	5,617.2	4,720.5	4,384.5	42.3	31.1	151.50	751.9	1,462.5	3,554.4	3,497.9	62.858		
6,200.0	5,715.8	4,807.1	4,463.6	42.6	31.7	151.92	768.2	1,493.9	3,602.7	3,545.2	62.635		
6,300.0	5,815.0	4,895.1	4,544.0	42.8	32.4	152.25	784.8	1,525.8	3,647.7	3,589.2	62.384		
6,400.0	5,914.7	4,984.5	4,625.5	43.0	33.0	152.49	801.6	1,558.1	3,689.2	3,629.8	62.113		
6,500.0	6,014.6	5,075.0	4,708.1	43.1	33.7	152.66	818.7	1,590.9	3,727.3	3,667.0	61.842		
6,600.0	6,114.6	5,166.2	4,791.4	43.1	34.4	95.40	835.8	1,624.0	3,762.6	3,701.7	61.788		
6,700.0	6,214.6	5,257.5	4,874.7	43.1	35.1	95.07	853.0	1,657.0	3,797.8	3,736.3	61.749		
6,800.0	6,314.6	5,348.8	4,958.0	43.1	35.8	94.75	870.2	1,690.1	3,833.2	3,771.1	61.711		
6,900.0	6,414.6	5,440.1	5,041.3	43.1	36.4	94.42	887.4	1,723.1	3,868.5	3,805.4	61.673		
7,000.0	6,514.6	5,531.4	5,124.6	43.2	37.0	94.09	904.6	1,756.1	3,903.8	3,839.7	61.635		
7,100.0	6,614.6	5,622.7	5,208.0	43.2	37.6	93.76	921.8	1,789.1	3,939.1	3,874.0	61.597		
7,200.0	6,714.6	5,714.0	5,291.3	43.2	38.2	93.43	939.0	1,822.0	3,974.4	3,908.3	61.559		
7,300.0	6,814.6	5,805.3	5,374.6	43.3	38.8	93.10	956.2	1,855.0	4,009.7	3,942.6	61.521		
7,400.0	6,914.6	5,896.6	5,458.0	43.3	39.4	92.77	973.4	1,888.0	4,045.0	3,976.9	61.483		
7,500.0	7,014.6	5,987.9	5,541.3	43.3	40.0	92.44	990.6	1,921.0	4,080.3	4,011.2	61.445		
7,600.0	7,114.6	6,079.2	5,624.6	43.3	40.6	92.11	1,007.8	1,954.0	4,115.6	4,045.5	61.407		
7,700.0	7,214.6	6,170.5	5,708.0	43.4	41.2	91.78	1,025.0	1,987.0	4,150.9	4,080.8	61.369		
7,800.0	7,314.6	6,261.8	5,791.3	43.4	41.8	91.45	1,042.2	2,020.0	4,186.2	4,115.1	61.331		
7,900.0	7,414.6	6,353.1	5,874.6	43.4	42.4	91.12	1,059.4	2,053.0	4,221.5	4,149.4	61.293		
8,000.0	7,514.6	6,444.4	5,958.0	43.4	43.0	90.79	1,076.6	2,086.0	4,256.8	4,183.7	61.255		
8,100.0	7,614.6	6,535.7	6,041.3	43.5	43.6	90.46	1,093.8	2,119.0	4,292.1	4,218.0	61.217		
8,200.0	7,714.6	6,627.0	6,124.6	43.5	44.2	90.13	1,111.0	2,152.0	4,327.4	4,252.3	61.179		
8,300.0	7,814.6	6,718.3	6,208.0	43.5	44.8	89.80	1,128.2	2,185.0	4,362.7	4,286.6	61.141		
8,306.4	7,821.0	6,724.7	6,214.6	43.5	44.8	89.80	1,128.2	2,185.0	4,362.7	4,286.6	61.141		
8,400.0	7,914.6	6,809.6	6,291.3	43.6	45.4	89.47	1,145.4	2,218.0	4,398.0	4,320.9	61.103		
8,500.0	8,014.6	6,900.9	6,374.6	43.6	46.0	89.14	1,162.6	2,251.0	4,433.3	4,355.2	61.065		
8,600.0	8,114.6	6,992.2	6,458.0	43.6	46.6	88.81	1,179.8	2,284.0	4,468.6	4,389.5	61.027		
8,700.0	8,214.6	7,083.5	6,541.3	43.6	47.2	88.48	1,197.0	2,317.0	4,503.9	4,423.8	60.989		
8,800.0	8,314.6	7,174.8	6,624.6	43.7	47.8	88.15	1,214.2	2,350.0	4,539.2	4,458.1	60.951		
8,900.0	8,414.6	7,266.1	6,708.0	43.7	48.4	87.82	1,231.4	2,383.0	4,574.5	4,492.4	60.913		
8,900.0	8,414.6	7,266.1	6,708.0	43.7	48.4	87.82	1,231.4	2,383.0	4,574.5	4,492.4	60.913		
9,000.0	8,514.6	7,357.4	6,791.3	43.7	49.0	87.49	1,248.6	2,416.0	4,609.8	4,526.7	60.875		
9,100.0	8,614.6	7,448.7	6,874.6	43.8	49.6	87.16	1,265.8	2,449.0	4,645.1	4,561.0	60.837		
9,127.4	8,642.0	7,476.1	6,902.0	43.8	49.6	87.16	1,265.8	2,449.0	4,645.1	4,561.0	60.837		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	133.04	-16.4	17.6	24.0					
100.0	100.0	100.0	100.0	0.4	0.4	133.04	-16.4	17.6	24.0	23.2	30.327			
200.0	200.0	200.0	200.0	1.2	1.2	133.04	-16.4	17.6	24.0	21.6	9.723 CC			
300.0	300.0	299.6	299.6	1.7	1.7	130.51	-16.0	18.7	24.6	21.3	7.484 ES			
400.0	400.0	398.8	398.7	2.1	3.3	120.77	-14.1	23.7	27.7	23.0	5.940			
500.0	500.0	497.4	496.8	2.5	4.5	108.35	-10.9	32.8	34.7	28.4	5.522 SF			
600.0	600.0	594.6	593.0	3.1	5.5	-172.52	-6.2	45.5	48.6	40.5	5.984			
700.0	699.7	689.4	686.2	4.4	6.4	-179.71	-0.4	61.6	71.6	61.2	6.894			
800.0	799.1	780.7	775.3	5.4	7.1	176.11	6.5	80.6	103.2	91.0	8.495			
900.0	898.0	868.2	859.8	5.7	7.8	165.05	14.3	101.8	142.1	129.1	10.915			
1,000.0	996.3	951.8	939.7	6.2	8.4	156.58	22.7	124.9	186.9	172.9	13.300			
1,100.0	1,093.8	1,031.1	1,014.6	6.9	8.9	151.03	31.6	149.4	237.2	222.1	15.745			
1,200.0	1,190.4	1,106.0	1,084.5	7.6	9.4	147.10	40.8	174.7	292.4	276.5	18.359			
1,300.0	1,285.8	1,184.3	1,156.9	8.2	9.6	144.27	51.0	202.7	351.7	335.1	21.223			
1,400.0	1,380.0	1,262.7	1,229.4	8.9	9.9	142.20	61.3	230.9	413.2	395.9	23.944			
1,500.0	1,472.6	1,339.1	1,300.0	9.5	10.1	140.60	71.2	258.2	476.9	459.0	26.581			
1,600.0	1,563.5	1,413.4	1,368.6	10.1	10.3	139.29	80.9	284.9	542.9	524.2	29.142			
1,700.0	1,653.0	1,485.8	1,435.6	10.4	10.6	139.95	90.4	310.8	610.6	591.4	31.847			
1,800.0	1,742.4	1,558.1	1,502.4	10.7	10.8	141.34	99.8	336.7	678.7	659.0	34.370			
1,900.0	1,831.7	1,630.4	1,569.3	11.1	11.1	142.48	109.3	362.7	747.0	726.7	36.709			
2,000.0	1,921.1	1,702.7	1,636.1	11.5	11.4	143.43	118.7	388.6	815.4	794.4	38.879			
2,100.0	2,010.5	1,775.0	1,702.9	11.9	11.6	144.23	128.1	414.5	883.9	862.3	40.881			
2,200.0	2,099.9	1,847.4	1,769.8	12.3	11.9	144.92	137.6	440.4	952.5	930.3	42.733			
2,300.0	2,189.2	1,919.7	1,836.6	12.8	12.2	145.52	147.0	466.3	1,021.2	998.2	44.448			
2,400.0	2,278.6	1,992.0	1,903.4	13.4	12.5	146.05	156.5	492.3	1,089.9	1,066.3	46.032			
2,500.0	2,368.0	2,064.3	1,970.3	14.0	12.8	146.51	165.9	518.2	1,158.7	1,134.3	47.495			
2,600.0	2,457.4	2,136.6	2,037.1	14.7	13.1	146.92	175.3	544.1	1,227.5	1,202.4	48.850			
2,700.0	2,546.8	2,208.9	2,104.0	15.5	13.4	147.29	184.8	570.0	1,296.3	1,270.5	50.107			
2,800.0	2,636.1	2,281.2	2,170.8	16.2	13.7	147.62	194.2	595.9	1,365.2	1,338.6	51.270			
2,900.0	2,725.5	2,353.5	2,237.6	17.0	14.0	147.92	203.6	621.9	1,434.1	1,406.7	52.350			
3,000.0	2,814.9	2,425.8	2,304.5	17.8	14.3	148.19	213.1	647.8	1,502.9	1,474.8	53.354			
3,100.0	2,904.3	2,498.1	2,371.3	18.7	14.7	148.44	222.5	673.7	1,571.9	1,542.9	54.290			
3,200.0	2,993.7	2,570.4	2,438.1	19.5	15.0	148.66	232.0	699.6	1,640.8	1,611.0	55.158			
3,300.0	3,083.0	2,642.7	2,505.0	20.3	15.3	148.87	241.4	725.5	1,709.7	1,679.2	55.969			
3,400.0	3,172.4	2,715.0	2,571.8	21.1	15.7	149.07	250.8	751.4	1,778.7	1,747.3	56.727			
3,500.0	3,261.8	2,787.3	2,638.6	22.0	16.1	149.24	260.3	777.4	1,847.6	1,815.5	57.436			
3,600.0	3,351.2	2,859.6	2,705.5	22.8	16.5	149.41	269.7	803.3	1,916.6	1,883.6	58.091			
3,700.0	3,440.5	2,931.9	2,772.3	23.6	17.0	149.56	279.1	829.2	1,985.6	1,951.8	58.724			
3,800.0	3,529.9	3,004.2	2,839.2	24.5	17.5	149.71	288.6	855.1	2,054.6	2,019.9	59.305			
3,900.0	3,619.3	3,076.5	2,906.0	25.3	18.0	149.84	298.0	881.0	2,123.5	2,088.1	59.853			
4,000.0	3,708.7	3,148.8	2,972.8	26.2	18.5	149.97	307.5	907.0	2,192.5	2,156.2	60.368			
4,100.0	3,798.1	3,221.1	3,039.7	27.0	19.0	150.09	316.9	932.9	2,261.5	2,224.4	60.854			
4,200.0	3,887.4	3,293.4	3,106.5	27.9	19.5	150.20	326.3	958.8	2,330.5	2,292.5	61.311			
4,300.0	3,976.8	3,365.7	3,173.3	28.7	20.0	150.30	335.8	984.7	2,399.5	2,360.7	61.743			
4,400.0	4,066.2	3,438.1	3,240.2	29.5	20.5	150.40	345.2	1,010.6	2,468.6	2,428.8	62.151			
4,500.0	4,155.6	3,510.4	3,307.0	30.4	21.0	150.50	354.6	1,036.5	2,537.6	2,497.0	62.537			
4,600.0	4,244.9	3,582.7	3,373.8	31.2	21.5	150.59	364.1	1,062.5	2,606.6	2,565.2	62.902			
4,700.0	4,334.3	3,655.0	3,440.7	32.1	22.0	150.67	373.5	1,088.4	2,675.6	2,633.3	63.248			
4,800.0	4,423.7	3,727.3	3,507.5	32.9	22.5	150.75	383.0	1,114.3	2,744.6	2,701.5	63.576			
4,900.0	4,513.1	3,799.6	3,574.4	33.8	23.0	150.83	392.4	1,140.2	2,813.7	2,769.6	63.888			
5,000.0	4,602.5	3,871.9	3,641.2	34.6	23.6	150.90	401.8	1,166.1	2,882.7	2,837.8	64.184			
5,100.0	4,691.8	3,944.2	3,708.0	35.5	24.1	150.97	411.3	1,192.1	2,951.7	2,905.9	64.465			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
5,200.0	4,781.2	4,016.5	3,774.9	36.3	24.6	151.03	420.7	1,218.0	3,020.8	2,974.1	64.733	
5,300.0	4,870.6	4,088.8	3,841.7	37.2	25.1	151.10	430.1	1,243.9	3,089.8	3,042.3	64.988	
5,400.0	4,960.0	4,161.1	3,908.5	38.1	25.6	151.16	439.6	1,269.8	3,158.8	3,110.4	65.231	
5,500.0	5,049.4	4,233.5	3,975.5	38.9	26.1	151.56	449.0	1,295.8	3,227.8	3,178.5	65.468	
5,600.0	5,140.3	4,308.0	4,044.3	39.7	26.6	152.62	458.7	1,322.5	3,294.5	3,244.3	65.601	
5,700.0	5,233.0	4,384.9	4,115.4	40.4	27.2	153.53	468.8	1,350.0	3,358.4	3,307.2	65.604	
5,800.0	5,327.1	4,464.2	4,188.8	41.0	27.7	154.30	479.1	1,378.5	3,419.1	3,367.0	65.537	
5,900.0	5,422.7	4,545.8	4,264.1	41.5	28.3	154.95	489.8	1,407.7	3,476.8	3,423.6	65.407	
6,000.0	5,519.4	4,629.4	4,341.4	42.0	28.9	155.49	500.7	1,437.7	3,531.1	3,477.0	65.221	
6,100.0	5,617.2	4,714.9	4,420.5	42.3	29.5	155.93	511.9	1,468.4	3,582.1	3,527.0	64.985	
6,200.0	5,715.8	4,802.2	4,501.2	42.6	30.1	156.29	523.3	1,499.6	3,629.7	3,573.6	64.707	
6,300.0	5,815.0	4,891.1	4,583.3	42.8	30.7	156.56	534.9	1,531.5	3,673.7	3,616.7	64.394	
6,400.0	5,914.7	4,981.3	4,666.8	43.0	31.3	156.75	546.6	1,563.8	3,714.2	3,656.2	64.059	
6,500.0	6,014.6	5,072.9	4,751.3	43.1	32.0	156.88	558.6	1,596.7	3,751.1	3,692.2	63.723	
6,600.0	6,114.6	5,165.2	4,836.7	43.1	32.6	99.64	570.6	1,629.8	3,785.0	3,725.5	63.639	
6,700.0	6,214.6	5,257.7	4,922.2	43.1	33.3	99.36	582.7	1,662.9	3,818.8	3,758.8	63.574	
6,800.0	6,314.6	5,350.1	5,007.6	43.1	33.9	99.09	594.8	1,696.0	3,852.7	3,792.0	63.509	
6,900.0	6,414.6	5,442.6	5,093.1	43.1	34.5	98.82	607.0	1,729.1	3,886.6	3,825.2	63.444	
7,000.0	6,514.6	5,535.1	5,178.6	43.2	35.1	98.55	619.1	1,762.2	3,920.5	3,858.3	63.379	
7,100.0	6,614.6	5,627.6	5,264.1	43.2	35.7	98.28	631.2	1,795.3	3,954.4	3,891.4	63.314	
7,200.0	6,714.6	5,720.1	5,349.6	43.2	36.3	98.01	643.3	1,828.4	3,988.3	3,924.5	63.249	
7,300.0	6,814.6	5,812.6	5,435.1	43.3	36.9	97.74	655.4	1,861.5	4,022.2	3,957.6	63.184	
7,400.0	6,914.6	5,905.1	5,520.6	43.3	37.5	97.47	667.5	1,894.6	4,056.1	3,990.7	63.119	
7,500.0	7,014.6	5,997.6	5,606.1	43.3	38.1	97.20	679.6	1,927.7	4,089.9	4,023.8	63.054	
7,600.0	7,114.6	6,090.1	5,691.6	43.3	38.7	96.93	691.7	1,960.8	4,123.8	4,056.9	62.989	
7,700.0	7,214.6	6,182.6	5,777.1	43.4	39.3	96.66	703.8	1,993.9	4,157.7	4,090.0	62.924	
7,800.0	7,314.6	6,275.1	5,862.6	43.4	39.9	96.39	715.9	2,027.0	4,191.6	4,123.1	62.859	
7,900.0	7,414.6	6,367.6	5,948.1	43.4	40.5	96.12	728.0	2,060.1	4,225.5	4,156.2	62.794	
8,000.0	7,514.6	6,460.1	6,033.6	43.4	41.1	95.85	740.1	2,093.2	4,259.4	4,189.3	62.729	
8,100.0	7,614.6	6,552.6	6,119.1	43.5	41.7	95.58	752.2	2,126.3	4,293.3	4,222.4	62.664	
8,200.0	7,714.6	6,645.1	6,204.6	43.5	42.3	95.31	764.3	2,159.4	4,327.2	4,255.5	62.599	
8,300.0	7,814.6	6,737.6	6,290.1	43.5	42.9	95.04	776.4	2,192.5	4,361.1	4,288.6	62.534	
8,400.0	7,914.6	6,830.1	6,375.6	43.6	43.5	94.77	788.5	2,225.6	4,395.0	4,321.7	62.469	
8,500.0	8,014.6	6,922.6	6,461.1	43.6	44.1	94.50	800.6	2,258.7	4,428.9	4,354.8	62.404	
8,600.0	8,114.6	7,015.1	6,546.6	43.6	44.7	94.23	812.7	2,291.8	4,462.8	4,387.9	62.339	
8,700.0	8,214.6	7,107.6	6,632.1	43.6	45.3	93.96	824.8	2,324.9	4,496.7	4,421.0	62.274	
8,800.0	8,314.6	7,200.1	6,717.6	43.7	45.9	93.69	836.9	2,358.0	4,530.6	4,454.1	62.209	
8,900.0	8,414.6	7,292.6	6,803.1	43.7	46.5	93.42	849.0	2,391.1	4,564.5	4,487.2	62.144	
9,000.0	8,514.6	7,385.1	6,888.6	43.7	47.1	93.15	861.1	2,424.2	4,598.4	4,520.3	62.079	
9,100.0	8,614.6	7,477.6	6,974.1	43.8	47.7	92.88	873.2	2,457.3	4,632.3	4,553.4	62.014	
9,127.4	8,642.0	9,026.3	8,642.0	43.8	39.7	97.15	687.0	1,949.3	3,862.0	3,790.0	53.653	



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	133.12	-27.3	29.2	40.0				
100.0	100.0	100.0	100.0	0.4	0.4	133.12	-27.3	29.2	40.0	39.2	50.449		
200.0	200.0	200.0	200.0	1.2	1.2	133.12	-27.3	29.2	40.0	37.5	16.174	CC, ES	
300.0	300.0	299.0	298.9	1.7	2.3	130.66	-26.8	31.3	41.2	37.7	11.600		
400.0	400.0	397.6	397.3	2.1	3.8	124.18	-25.4	37.5	45.4	40.3	8.916		
500.0	500.0	495.4	494.6	2.5	4.9	115.86	-23.1	47.7	53.3	46.7	8.111	SF	
600.0	600.0	591.9	590.0	3.1	5.9	-162.54	-20.0	61.8	67.7	59.4	8.157		
700.0	699.7	685.7	682.1	4.4	6.7	-169.45	-16.0	79.2	91.1	80.5	8.644		
800.0	799.1	776.0	770.0	5.4	7.4	-174.27	-11.5	99.4	123.1	110.7	9.986		
900.0	898.0	862.4	853.2	5.7	8.0	173.83	-6.4	121.9	162.8	149.6	12.309		
1,000.0	996.3	944.6	931.6	6.2	8.6	164.59	-0.9	146.1	208.8	194.6	14.638		
1,100.0	1,093.8	1,022.4	1,004.9	6.9	9.1	158.41	4.8	171.6	260.6	245.4	17.139		
1,200.0	1,190.4	1,101.5	1,078.7	7.6	9.3	154.07	11.1	199.4	317.1	301.2	19.927		
1,300.0	1,285.8	1,182.0	1,153.6	8.2	9.5	150.99	17.6	227.9	376.3	359.7	22.613		
1,400.0	1,380.0	1,260.4	1,226.7	8.9	9.8	148.69	23.8	255.7	438.0	420.7	25.231		
1,500.0	1,472.6	1,336.7	1,297.8	9.5	10.0	146.90	29.9	282.7	502.1	484.1	27.791		
1,600.0	1,563.5	1,410.7	1,366.7	10.1	10.2	145.41	35.8	308.9	568.6	549.9	30.305		
1,700.0	1,653.0	1,482.7	1,433.9	10.4	10.5	145.86	41.6	334.4	637.1	617.8	33.015		
1,800.0	1,742.4	1,554.6	1,500.9	10.7	10.8	147.05	47.3	359.8	705.8	686.0	35.553		
1,900.0	1,831.7	1,626.5	1,567.9	11.1	11.0	148.02	53.1	385.3	774.7	754.3	37.909		
2,000.0	1,921.1	1,698.4	1,634.9	11.5	11.3	148.84	58.8	410.7	843.7	822.7	40.098		
2,100.0	2,010.5	1,770.3	1,701.9	11.9	11.6	149.54	64.6	436.2	912.8	891.1	42.124		
2,200.0	2,099.9	1,842.2	1,768.9	12.3	11.8	150.14	70.3	461.6	981.9	959.6	44.003		
2,300.0	2,189.2	1,914.2	1,835.9	12.8	12.1	150.66	76.1	487.1	1,051.1	1,028.1	45.747		
2,400.0	2,278.6	1,986.1	1,902.9	13.4	12.4	151.11	81.8	512.6	1,120.3	1,096.6	47.362		
2,500.0	2,368.0	2,058.0	1,969.9	14.0	12.7	151.52	87.6	538.0	1,189.5	1,165.2	48.858		
2,600.0	2,457.4	2,129.9	2,036.9	14.7	13.0	151.88	93.3	563.5	1,258.8	1,233.8	50.248		
2,700.0	2,546.8	2,201.8	2,103.9	15.5	13.3	152.20	99.1	588.9	1,328.1	1,302.3	51.540		
2,800.0	2,636.1	2,273.7	2,170.9	16.2	13.6	152.49	104.8	614.4	1,397.4	1,370.9	52.738		
2,900.0	2,725.5	2,345.6	2,237.9	17.0	13.9	152.76	110.5	639.8	1,466.8	1,439.5	53.854		
3,000.0	2,814.9	2,417.5	2,304.9	17.8	14.3	153.00	116.3	665.3	1,536.1	1,508.1	54.894		
3,100.0	2,904.3	2,489.4	2,371.9	18.7	14.6	153.22	122.0	690.7	1,605.5	1,576.7	55.864		
3,200.0	2,993.7	2,561.3	2,438.9	19.5	14.9	153.42	127.8	716.2	1,674.8	1,645.3	56.768		
3,300.0	3,083.0	2,633.2	2,505.9	20.3	15.2	153.60	133.5	741.7	1,744.2	1,714.0	57.614		
3,400.0	3,172.4	2,705.1	2,572.9	21.1	15.6	153.77	139.3	767.1	1,813.6	1,782.6	58.406		
3,500.0	3,261.8	2,777.0	2,639.9	22.0	15.9	153.93	145.0	792.6	1,883.0	1,851.2	59.147		
3,600.0	3,351.2	2,848.9	2,706.9	22.8	16.3	154.08	150.8	818.0	1,952.4	1,919.8	59.842		
3,700.0	3,440.5	2,920.8	2,773.9	23.6	16.7	154.22	156.5	843.5	2,021.8	1,988.4	60.495		
3,800.0	3,529.9	2,992.7	2,840.9	24.5	17.1	154.34	162.3	868.9	2,091.3	2,057.0	61.110		
3,900.0	3,619.3	3,064.6	2,907.9	25.3	17.6	154.46	168.0	894.4	2,160.7	2,125.7	61.686		
4,000.0	3,708.7	3,136.5	2,974.9	26.2	18.0	154.58	173.8	919.9	2,230.1	2,194.3	62.223		
4,100.0	3,798.1	3,208.4	3,041.9	27.0	18.5	154.68	179.5	945.3	2,299.5	2,262.9	62.746		
4,200.0	3,887.4	3,280.3	3,108.9	27.9	19.0	154.78	185.3	970.8	2,369.0	2,331.5	63.231		
4,300.0	3,976.8	3,352.2	3,175.9	28.7	19.5	154.87	191.0	996.2	2,438.4	2,400.1	63.688		
4,400.0	4,066.2	3,424.1	3,242.9	29.5	19.9	154.96	196.8	1,021.7	2,507.9	2,468.8	64.121		
4,500.0	4,155.6	3,496.0	3,309.9	30.4	20.4	155.05	202.5	1,047.1	2,577.3	2,537.4	64.531		
4,600.0	4,244.9	3,567.9	3,376.9	31.2	20.9	155.13	208.2	1,072.6	2,646.8	2,606.0	64.919		
4,700.0	4,334.3	3,639.8	3,443.9	32.1	21.4	155.20	214.0	1,098.0	2,716.2	2,674.6	65.288		
4,800.0	4,423.7	3,711.7	3,510.9	32.9	21.8	155.27	219.7	1,123.5	2,785.7	2,743.2	65.638		
4,900.0	4,513.1	3,783.6	3,577.9	33.8	22.3	155.34	225.5	1,149.0	2,855.1	2,811.8	65.971		
5,000.0	4,602.5	3,855.5	3,644.9	34.6	22.8	155.41	231.2	1,174.4	2,924.6	2,880.5	66.287		
5,100.0	4,691.8	3,927.4	3,711.9	35.5	23.3	155.47	237.0	1,199.9	2,994.0	2,949.1	66.588		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

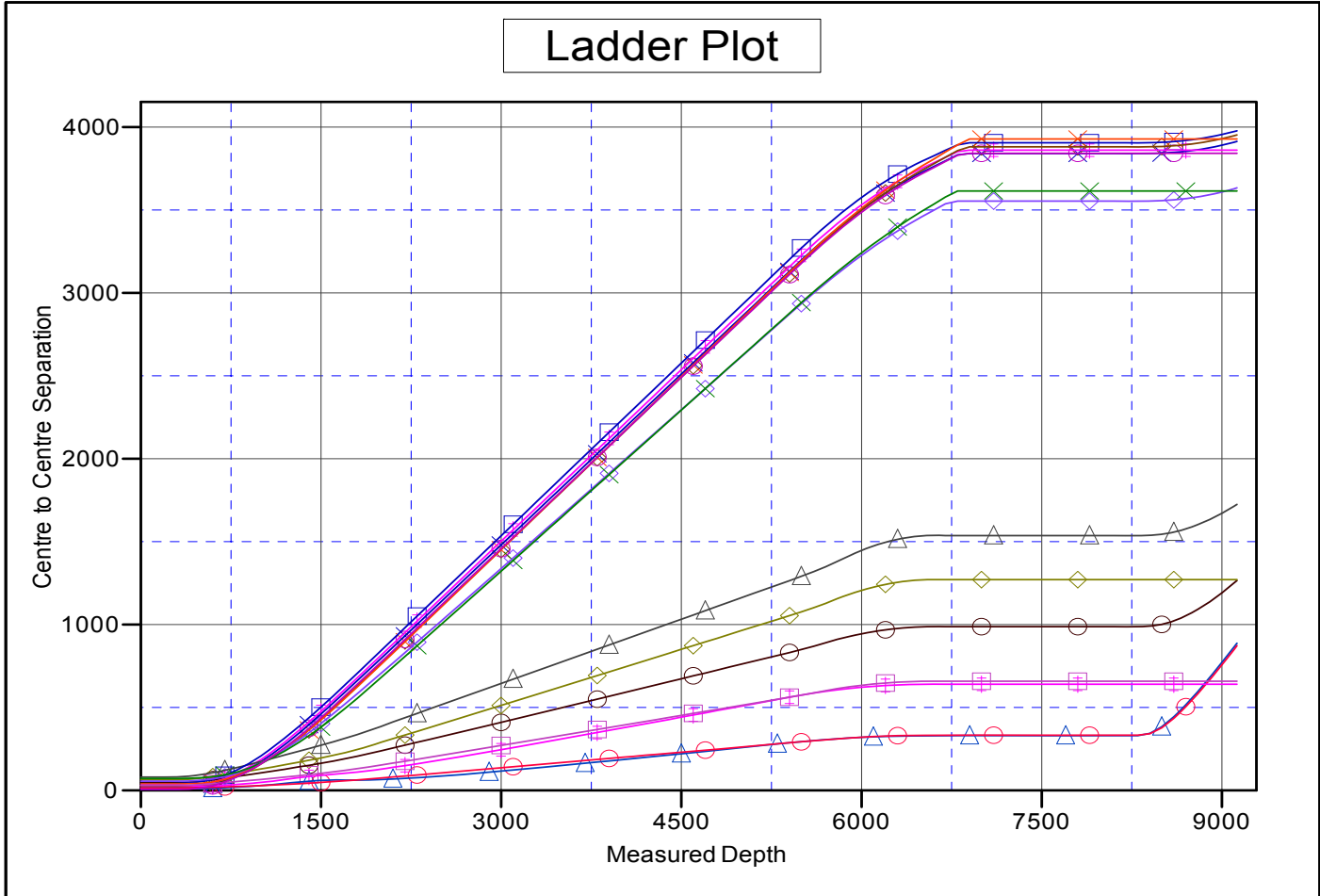
Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
5,200.0	4,781.2	3,999.3	3,778.9	36.3	23.8	155.53	242.7	1,225.3	3,063.5	3,017.7	66.875			
5,300.0	4,870.6	4,071.2	3,845.9	37.2	24.3	155.58	248.5	1,250.8	3,133.0	3,086.3	67.148			
5,400.0	4,960.0	4,143.2	3,912.9	38.1	24.7	155.64	254.2	1,276.2	3,202.4	3,154.9	67.409			
5,500.0	5,049.4	4,215.2	3,980.0	38.9	25.2	155.99	260.0	1,301.7	3,271.8	3,223.4	67.663			
5,600.0	5,140.3	4,289.3	4,049.1	39.7	25.7	156.91	265.9	1,328.0	3,338.9	3,289.6	67.800			
5,700.0	5,233.0	4,366.0	4,120.6	40.4	26.2	157.69	272.0	1,355.1	3,403.0	3,352.8	67.790			
5,800.0	5,327.1	4,445.3	4,194.4	41.0	26.8	158.35	278.4	1,383.2	3,463.9	3,412.7	67.703			
5,900.0	5,422.7	4,526.8	4,270.4	41.5	27.3	158.91	284.9	1,412.1	3,521.6	3,469.4	67.545			
6,000.0	5,519.4	4,610.6	4,348.4	42.0	27.9	159.37	291.6	1,441.7	3,575.9	3,522.8	67.324			
6,100.0	5,617.2	4,696.3	4,428.4	42.3	28.4	159.75	298.4	1,472.1	3,626.8	3,572.7	67.048			
6,200.0	5,715.8	4,784.0	4,510.0	42.6	29.0	160.04	305.4	1,503.1	3,674.1	3,619.0	66.725			
6,300.0	5,815.0	4,873.3	4,593.2	42.8	29.6	160.27	312.6	1,534.7	3,717.8	3,661.7	66.364			
6,400.0	5,914.7	4,964.1	4,677.8	43.0	30.2	160.44	319.8	1,566.9	3,757.7	3,700.8	65.978			
6,500.0	6,014.6	5,056.2	4,763.7	43.1	30.8	160.54	327.2	1,599.5	3,794.0	3,736.1	65.592			
6,600.0	6,114.6	5,149.3	4,850.5	43.1	31.5	160.33	334.6	1,632.5	3,827.2	3,768.8	65.488			
6,700.0	6,214.6	5,242.5	4,937.3	43.1	32.1	160.09	342.1	1,665.4	3,860.3	3,801.3	65.406			
6,800.0	6,314.6	5,335.7	5,024.1	43.1	32.7	160.26	349.5	1,698.4	3,893.4	3,833.8	65.324			
6,900.0	6,414.6	5,428.8	5,110.9	43.1	33.3	160.24	356.9	1,731.3	3,926.5	3,866.3	65.242			
7,000.0	6,514.6	5,522.0	5,197.7	43.2	33.9	160.24	364.3	1,764.2	3,959.6	3,898.8	65.160			
7,100.0	6,614.6	5,615.2	5,284.5	43.2	34.5	160.24	371.7	1,797.1	3,992.7	3,931.3	65.078			
7,200.0	6,714.6	5,708.4	5,371.3	43.2	35.1	160.24	379.1	1,830.0	4,025.8	3,963.8	65.000			
7,300.0	6,814.6	5,801.6	5,458.1	43.3	35.7	160.24	386.5	1,862.9	4,058.9	3,996.3	64.922			
7,400.0	6,914.6	5,894.8	5,544.9	43.3	36.3	160.24	393.9	1,895.8	4,092.0	4,028.8	64.844			
7,500.0	7,014.6	5,988.0	5,631.7	43.3	36.9	160.24	401.3	1,928.7	4,125.1	4,061.3	64.766			
7,600.0	7,114.6	6,081.2	5,718.5	43.3	37.5	160.24	408.7	1,961.6	4,158.2	4,093.8	64.688			
7,700.0	7,214.6	6,174.4	5,805.3	43.4	38.1	160.24	416.1	1,994.5	4,191.3	4,126.3	64.610			
7,800.0	7,314.6	6,267.6	5,892.1	43.4	38.7	160.24	423.5	2,027.4	4,224.4	4,158.8	64.532			
7,900.0	7,414.6	6,360.8	5,978.9	43.4	39.3	160.24	430.9	2,060.3	4,257.5	4,191.3	64.454			
8,000.0	7,514.6	6,454.0	6,065.7	43.4	39.9	160.24	438.3	2,093.2	4,290.6	4,223.8	64.376			
8,100.0	7,614.6	6,547.2	6,152.5	43.5	40.5	160.24	445.7	2,126.1	4,323.7	4,256.3	64.298			
8,200.0	7,714.6	6,640.4	6,239.3	43.5	41.1	160.24	453.1	2,159.0	4,356.8	4,288.8	64.220			
8,300.0	7,814.6	6,733.6	6,326.1	43.5	41.7	160.24	460.5	2,191.9	4,389.9	4,321.3	64.142			
8,305.8	7,820.4	6,740.4	6,333.7	43.5	41.8	160.24	461.7	2,195.1	4,393.1	4,324.5	64.130			
8,400.0	7,914.6	6,826.8	6,413.3	43.6	42.3	160.24	469.1	2,228.0	4,426.2	4,357.0	64.052			
8,500.0	8,014.6	6,919.0	6,493.9	43.6	42.9	160.24	476.5	2,260.9	4,459.3	4,389.5	63.974			
8,600.0	8,114.6	7,012.2	6,574.5	43.6	43.5	160.24	483.9	2,293.8	4,492.4	4,422.0	63.896			
8,700.0	8,214.6	7,105.4	6,655.1	43.6	44.1	160.24	491.3	2,326.7	4,525.5	4,454.5	63.818			
8,800.0	8,314.6	7,198.6	6,735.7	43.7	44.7	160.24	498.7	2,359.6	4,558.6	4,487.0	63.740			
8,900.0	8,414.6	7,291.8	6,816.3	43.7	45.3	160.24	506.1	2,392.5	4,591.7	4,519.5	63.662			
9,000.0	8,514.6	7,385.0	6,896.9	43.7	45.9	160.24	513.5	2,425.4	4,624.8	4,552.0	63.584			
9,100.0	8,614.6	7,478.2	6,977.5	43.8	46.5	160.24	520.9	2,458.3	4,657.9	4,584.5	63.506			
9,127.4	8,642.0	7,500.0	7,000.0	43.8	46.6	160.24	522.1	2,461.5	4,661.1	4,587.7	63.500			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=30' @ 7493.0usft (TBD) Coordinates are relative to: Laramie 29-01 0993-20-16E - Slot A-11
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Central Zone
 Central Meridian is -105.500000 Grid Convergence at Surface is: -1.44°



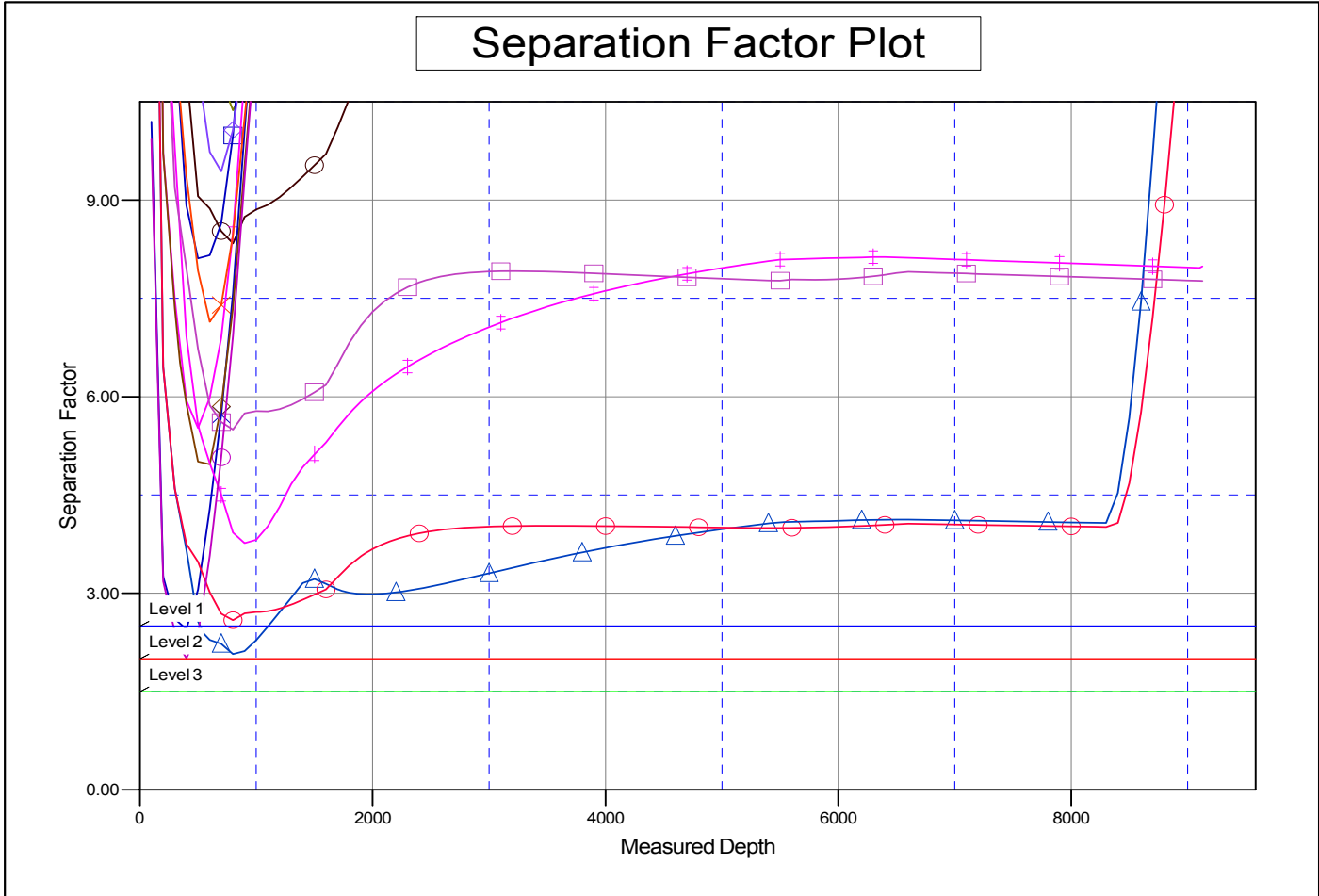
LEGEND

- | | | | | |
|---|--|---|--|-------------------------------------|
| 29-01 0993-20-13E, OH, Design #1 V0 | | Laramie 29-01 Fed 0993-21-18W, OH, Design #1 V0 | | Laramie 29-01 0993-20-18E, OH, Desi |
| 29-01 0993-20-12E, OH, Design #1 V0 | | Laramie 29-01 Fed 0993-21-14W, OH, Design #1 V0 | | Laramie 29-01 Fed 0993-21-12W, OH, |
| 29-01 Fed 0993-21-16W, OH, Design #1 V0 | | Laramie 29-01 Fed 0993-21-13W, OH, Design #1 V0 | | Laramie 29-01 Fed 0993-21-11W, OH, |
| 29-01 Fed 0993-21-17W, OH, Design #1 V0 | | Laramie 29-01 0993-20-17E, OH, Design #1 V0 | | Laramie 29-01 0993-20-14E, OH, Desi |
| 29-01 0993-20-11E, OH, Design #1 V0 | | Laramie 29-01 0993-20-15E, OH, Design #1 V0 | | Laramie 29-01 Fed 0993-21-15W, OH, |



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 0993-20-16E - Slot A-11
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30' @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 0993-20-16E	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=30' @ 7493.0usft (TBD) Coordinates are relative to: Laramie 29-01 0993-20-16E - Slot A-11
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Central Zone
 Central Meridian is -105.500000 Grid Convergence at Surface is: -1.44°



LEGEND

29-01 0993-20-13E, OH, Design #1 V0		Laramie 29-01 Fed 0993-21-18W, OH, Design #1 V0		Laramie 29-01 0993-20-18E, OH, Desi
29-01 0993-20-12E, OH, Design #1 V0		Laramie 29-01 Fed 0993-21-14W, OH, Design #1 V0		Laramie 29-01 Fed 0993-21-12W, OH,
29-01 Fed 0993-21-16W, OH, Design #1 V0		Laramie 29-01 Fed 0993-21-13W, OH, Design #1 V0		Laramie 29-01 Fed 0993-21-11W, OH,
29-01 Fed 0993-21-17W, OH, Design #1 V0		Laramie 29-01 0993-20-17E, OH, Design #1 V0		Laramie 29-01 0993-20-14E, OH, Desi
29-01 0993-20-11E, OH, Design #1 V0		Laramie 29-01 0993-20-15E, OH, Design #1 V0		Laramie 29-01 Fed 0993-21-15W, OH,